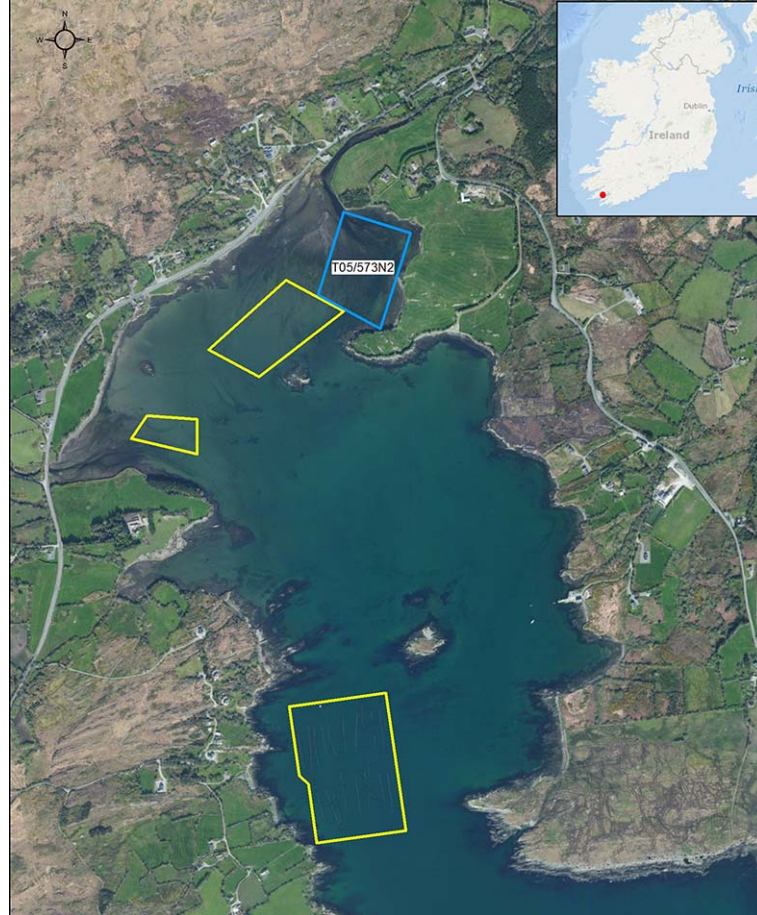


# Technical Advisors Report

## AP4/2014 Licence Appeal Review



Prepared for the Aquaculture Licence Appeals Board  
by



February 2015

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## DOCUMENT CONTROL SHEET



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## Executive Summary

<b>Description:</b>	Aquaculture Marine Shellfish Inter/Subtidal (Structures e.g. trestles)
<b>Licence Application</b>	Site T05/573 N1 & T05/573 N2 and granting of T05/573 N2
<b>Appeal Reference</b>	AP4/1/2014, AP4/2/2014, AP4/3/2014, AP4/4/2014, AP4/5/2014, AP4/6/2014, AP4/7/2014, AP4/8/2014, AP4/9/2014
Department Reference No.	2014/51071P/PM
Applicant	John Crowley, Faha, Adrigole, Beara, Co. Cork
Minister Decision	Granted Licence 09/07/2014 for one site T05/573 N2 out of an initial application for two sites and T05/573 N1 and T05/573 N2
<b>Appeal</b>	
Type of Appeal	Granting of licence to John Crowley for the growing of <i>Crassostrea gigas</i> on trestles on the shore of Adrigole Harbour.
Appellant(s)	78 Appellants registered their objections in 9 separate appeals.
Observers	None
Technical Advisor	Altemar, Marine and Environmental Consultants <a href="http://www.altemar.ie">www.altemar.ie</a>
Site Inspection	Carried out on the 25 <sup>th</sup> October 2014 by Bryan Deegan



## 1. Appeals Details & Observer Comments/Submissions

*Date Appeal Received:*

Appeal Number*	Date Received by ALAB
1	21 <sup>st</sup> August 2014
2	22 <sup>nd</sup> August 2014
3	25 <sup>th</sup> August 2014
4	20 <sup>th</sup> August 2014
5	21 <sup>st</sup> August 2014
6	19 <sup>th</sup> August 2014
7	18 <sup>th</sup> August 2014
8	15 <sup>th</sup> August 2014
9	15 <sup>th</sup> August 2014

\*Appeal Numbers are consistent with corresponding appellants throughout the report.

*Location of Site Appealed:* Adrigole Harbour, Bantry Bay, Co. Cork

### 1.1 Appeal Timeframe

A public announcement with details of the Aquaculture and Foreshore application grant decision was published in the Southern Star on July 26<sup>th</sup> 2014.

An Objection letter was sent by the following appellants within the one month timeframe:

Appeal Number*	Date Received by ALAB	Lead Name on Appeal	No. of Appellants per appeal
1	21 <sup>st</sup> August 2014	Mr Anthony Walsh	48
2	22 <sup>nd</sup> August 2014	Mr Kevin Harrington	4
3	25 <sup>th</sup> August 2014	Ms Catherine O'Sullivan	6
4	20 <sup>th</sup> August 2014	Mr Hulsizer	4
5	19 <sup>th</sup> August 2014	Ms Rose Cang	8
6	19 <sup>th</sup> August 2014	Mr Gerard Bruton	1
7	18 <sup>th</sup> August 2014	Mr Dan O Shea	1
8	15 <sup>th</sup> August 2014	Mr James Kelly	3
9	15 <sup>th</sup> August 2014	Mr John G Kelly	3

## 1.2 Name of Appellants

Appeal Number*	Lead name on each appeal	Address
1	Mr Anthony Walsh	"Harbour Lights" Adrigole Harbour, Co Cork
2	Mr Kevin Harrington	Reen, Adrigole, Co. Cork
3	Ms Catherine O'Sullivan	Capalagh, Adrigole Co. Cork & 139 Green Dragon Lane, N21 IEU
4	Mr Hulsizer	c/o Charles C. Daly & Co. Solicitors, 17 Casement Square, Cobh, Co Cork.
5	Ms Rose Carey	Droumlave Adrigole
6	Mr Anthony Walsh	Adrigole, Co. Cork
7	Mr Gerard Bruton	Adrigole Arts, Adrigole
8	Mr Dan O Shea	Bawn, Adrigole
9	Mr James Kelly	Cappnaparka, Adrigole
10	Mr John G Kelly	No Address

## 1.3 Name of Observers

**No observations outside of appellants and applicant response**

## 1.4 Grounds for Appeal

A large range of issues were expressed in response to the granting of this licence. It should also be noted that reference is made to previous communications that were not available. The current grounds for appeal are summarised below:

### Substantive Issues

The appellants expressed a range of concerns in relation to the proposed site. These included environmental issues such as the location of the aquaculture site, at the mouth of a salmon river thus potentially impeding migration, within a seal and swan breeding area and a feeding area for bird species of conservation importance such as curlew. It was also questioned "whether all necessary and appropriate steps have been taken (before granting this licence) to comply with the EU Habitats Directive".

Concerns in relation to the potential visual, recreational and tourism impact of the aquaculture site were also expressed. This included potential adverse economic impacts to local sailing, kayaking, shellfish harvesting and house prices.

The suitability of the site was also questioned, as it is located at the mouth of a freshwater river which regularly transports, debris including trees into the aquaculture site in addition to runoff from sheep and cattle pasture. The suitability of the intertidal area was also questioned and was deemed unmanageable for any driving vehicles.

### Non Substantive Issues

**None**

## 1.5 Ministers 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 are enclosed from the Minister or any other party in light of appeals.

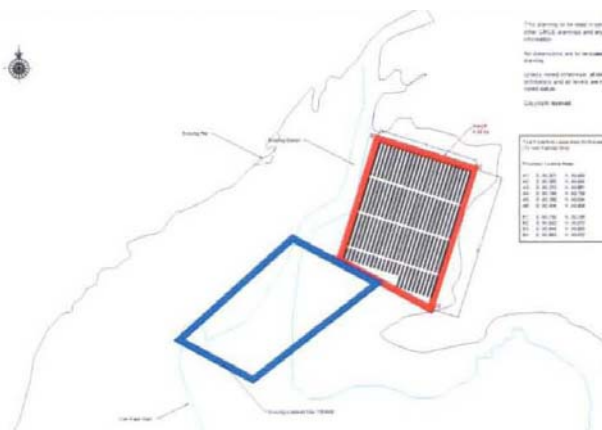
## 1.6 Applicant Response

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*”

A detailed 11 page response was received sent by Cronin Millar Consulting Engineers on the 29<sup>th</sup> January 2014 prior to the appeals, in response to public submissions.

Following the appeals individual replies were submitted by Cronin Millar Consulting Engineers (dated 7<sup>th</sup> October 2014). In summary, they detail the minimal, or lack of, negative impact of the proposed development on the environment, visual and tourism, the lack of evidence to available to support negative impact and beneficial impact on local employment. Also, Cronin Millar Consulting Engineers detail proposed mitigation measures to minimise potential impacts.

However, it should be noted that Cronin Millar Consulting Engineers state that “the proposed development will be located outside the path of the Adrigole River that discharges into Adrigole Harbour at the north west corner. In our opinion the development will not impact upon salmon migrating up this river. Furthermore, the salmon have the capability to swim through the oyster trestles (if necessary), as they are open structures that do not impede water flow.”



Extract from Cronin Millar Consulting Engineers Response to Appeal (note river position)

In addition “the applicant appreciates the appellant's concern of” debris running down the Adrigole River, “however this is a management issue for the applicant”.

As outlined in Cronin Millar Consulting Engineers response to **AP4/9/2014** “a third party appeal against the Minister's decision was lodged by Charles C Daly & Co Solicitors, 17 Casement Square, Cobh, Co. Cork. We note that there are no "grounds of appeal" appended to this appeal. Cronin Millar Consulting Engineers (CMCE) emailed ALAB on 1st October 2014 requesting clarification of same. CMCE did not receive a response from ALAB by the time of writing. Section 41 (1) of the Fisheries (Amendment) Act, 1997 states:

"For an appeal under section 40 to be valid, the notice of appeal shall .. "

(e) state in full the grounds of the appeal and the reasons, considerations and arguments on which they are based"

Consequently, we assume that the appeal is therefore invalid and further comment is not required.”

In addition Cronin Millar Consulting Engineers also state that “the Minister has determined that an aquaculture licence shall not be issued for Site T05/573 N1 in order to allow for other beneficial users of the harbour and the potential for it to have a significant cumulative negative visual impact on the very high scenic landscape. The applicant respectfully accepts this determination and notes that the visual impact of the proposed aquaculture will be reduced.”

## **2. Consideration of Non-Substantive Issues**

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

## **3. 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.

## **4. Minister's File**

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

1. Draft copy of the Aquaculture Licence with Maps, charts, Co-ordinates and drawings.
2. Copy of the Screening Matrix for Aquaculture Activities in outer Bantry Bay
3. Copy of the submission to the Minister
4. Copy of the Applicants Response to concerns and objections
5. Copy of Notification to the Applicant of Ministers Decision
6. Copy of the advertisement of Ministers Decision
7. Overview map of sites in the surrounding area.
8. EIA Screening Assessment was subsequently emailed.

## 5. Context of the Area

### 5.1 Physical descriptions

Bantry Bay (Figure 1) is a long marine inlet located in south west County Cork. It is the largest of the long marine inlets in south-west Ireland. It is approximately 35 km long, running in a south-west to north-easterly direction. The entrance to the bay is approximately 10 km wide, steadily narrowing to 3-4 km at its head. Bere Island, situated on the north shore, adjacent to Castletownbere and Whiddy Island lying near the head of the bay on the southern shore are the two largest islands in the Bay. The main population centres around the Bay include Bantry (3,348 in 2011), Castletownbere (868 in 2006), Glengarriff (870 in 2006) and Adrigole (457 in 2006).

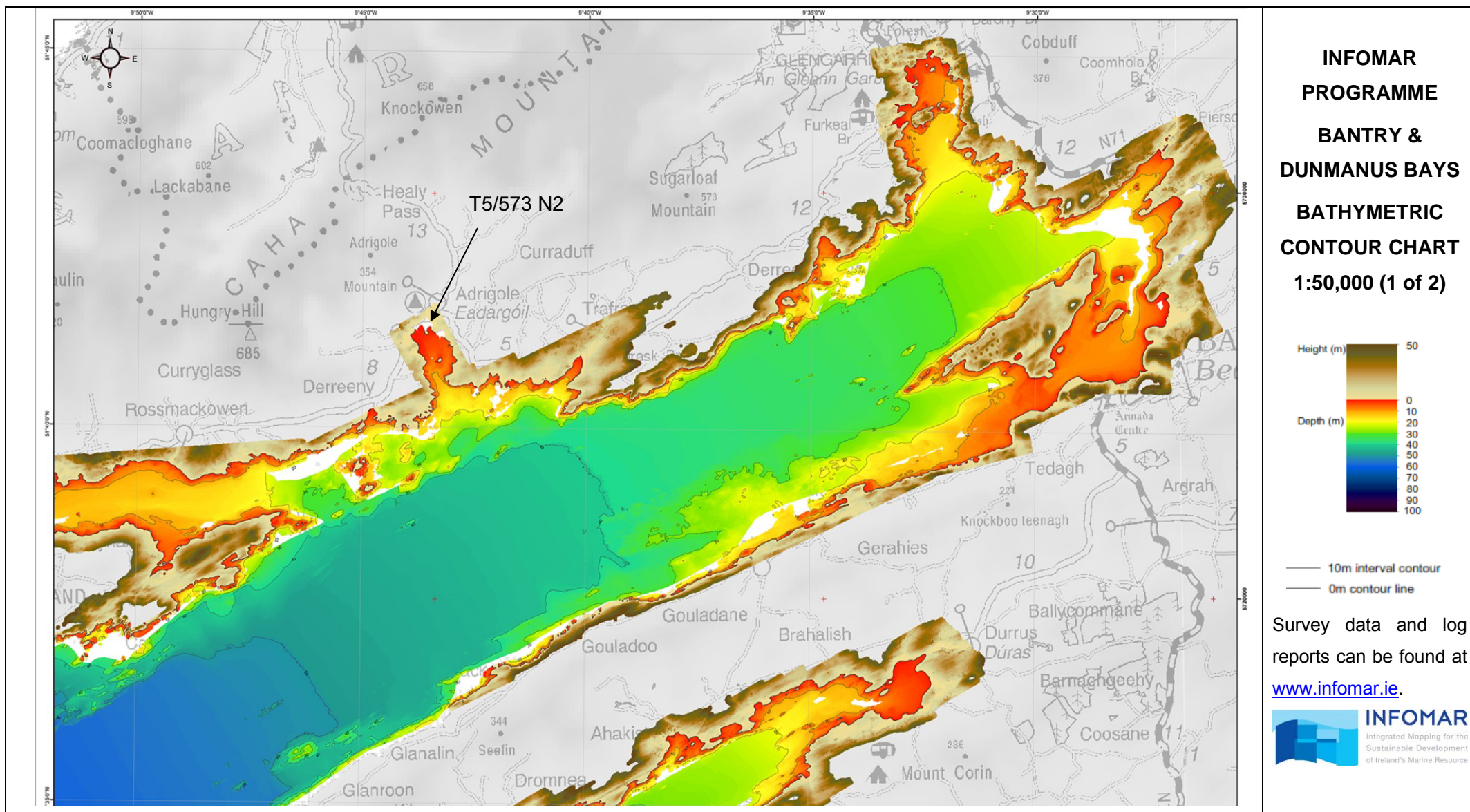
The SW facing bay is open to the prevailing south westerly winds and is relatively deep in nature, with 20 -30m water depth at the head of the Bay (Figure 2). This would indicate that in stormy conditions from SW direction Atlantic swell would penetrate far into Bantry Bay which would have an impact on aquaculture installations within the Bay.

Bantry Bay is located in temperate climate with the closest weather station being Sherkin Island Marine Station (24 km to the south), which has on average over 1200 mm of rain per annum Figure 3. It has a 30 year long term average Max of 18°C (July/Aug) and Min of 5°C (January/February).

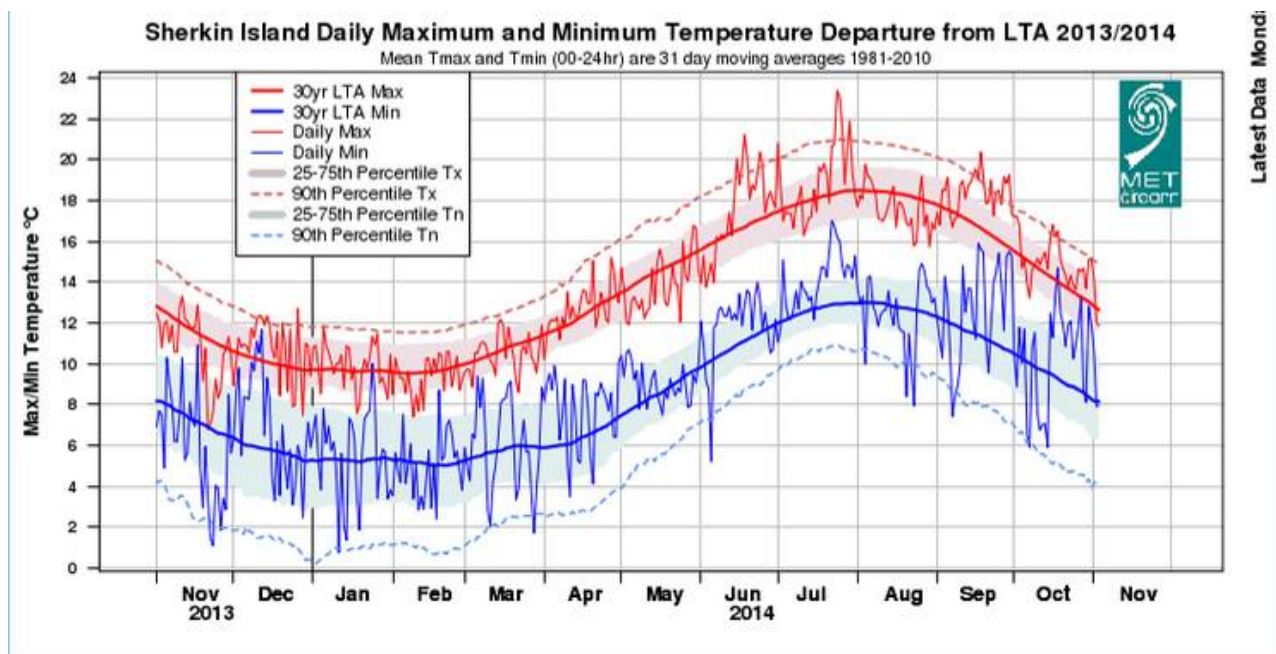
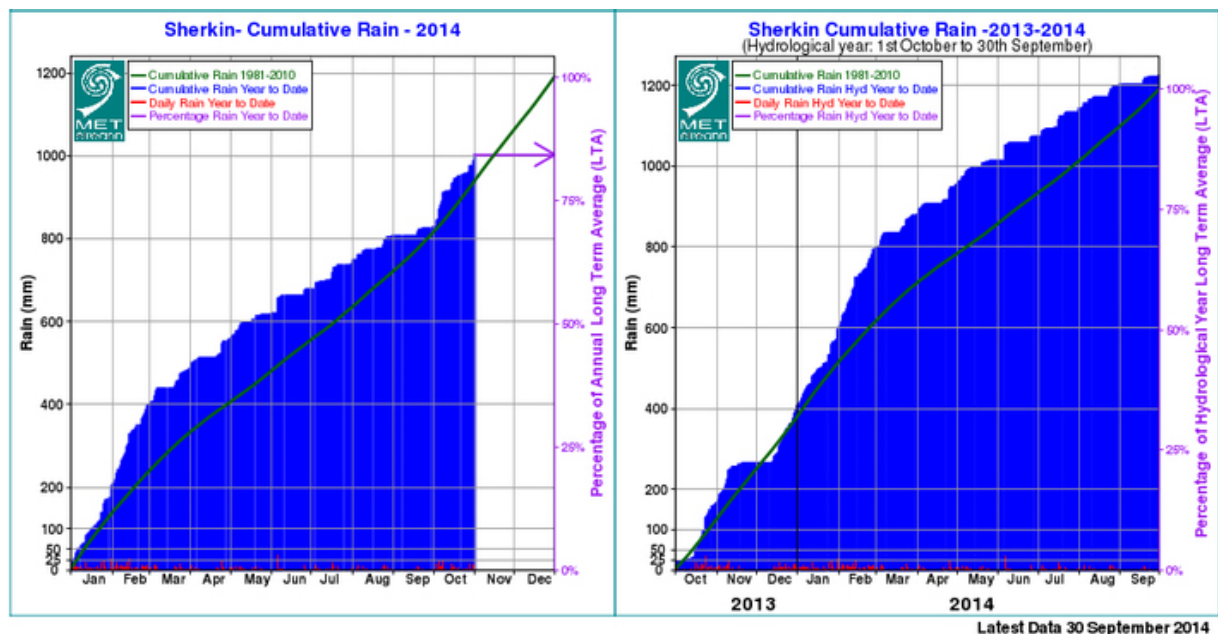


**Figure 1.** Bantry Bay





**Figure 2:** Bathymetry of Bantry Bay based on INFOMAR Data.



**Figure 3.** Sherkin Island Marine Station weather data.

## 5.2 Resource Users

### Aquaculture

Bantry Bay is a major centre for marine aquaculture; and the principal farmed species are:

#### 1. Rope Grown (Suspended) Mussel Culture

In Bantry Bay, most of the production of rope grown mussel is concentrated east of Whiddy Island, in the inner part of Bantry Bay, with significant additional production in Berehaven, in the outer part of Glengarriff Harbour, in Adrigole Harbour, along the southern shore of the Bay near Reen Point, and a short distance further south-westwards seaward of Gearhies. The initial competition for space in the sheltered areas of the inner Bay resulted in some mussel growers establishing long-lines in more

exposed areas, with the consequence that mussel culture is now spread widely around Bantry Bay. The tonnage harvested in 2012 is understood to be around 3,300 to 3,480 tonnes.

## **2. Clams**

Relatively small amounts of clams are grown in Bantry Bay, and in 2011 the tonnage harvested amounted to 24.9 tonnes.

## **3. Scallops**

Scallops are grown intensively and extensively in Bantry Bay. The main intensive aquaculture areas are Traillaun Harbour, Bere Island and East of Whiddy Island. Extensive scallop growing is also carried out in these areas in addition to the mouth of Glengarrif Harbour.

## **4. Abalone**

There is an abalone hatchery and farm located on Bere Island, and a hatchery at near Quarry Point, west of Bere Island.

## **5. Salmon**

Salmon (*Salmo salar*) farming is also well-established in three operations in Bantry Bay. Murphy's Irish Seafood, located at Gearhies. Marine Harvest operate a salmon farm at Mehal Head while Silver King Seafoods Ltd also operate two salmon farms at Aghabeg in the bay in Bantry Bay.

## **6. Designated shellfish areas**

The aim of the Shellfish Waters Directive is to protect or improve shellfish waters in order to support shellfish life and growth. It is designed to protect the aquatic habitat of bivalve and gastropod molluscs, which include oysters, mussels, cockles, scallops and clams. The Directive requires Member States to designate waters that need protection in order to support shellfish life and growth. The Directive sets physical, chemical and microbiological requirements that designated shellfish waters must either comply with or endeavour to improve.

Fourteen shellfish areas were originally designated in 1994 under the Quality of Shellfish Waters Regulations (S.I. No. 200 of 1994, revoked by S.I. No. 268 of 2006). A further 49 areas were subsequently designated in 2009 under the European Communities (Quality of Shellfish Waters) (Amendment) Regulations, 2009 (S.I. No. 55 of 2009). There are six Designated Shellfish Areas in Bantry Bay (Figure 4):

- a. **Bantry Bay Inner Shellfish Area**, is 11 km<sup>2</sup> in area and is located due south from Ardnamanagh South on the mainland to Whiddy Point East on Whiddy Island, and from Cusroe on Whiddy Island due south to the mainland near Dromclough, with the exclusion of Bantry Harbour. This is the largest designated shellfish area in Bantry Bay.
- b. **Castletownbere Shellfish Area** lies between Bere Island and the mainland, on the northern shore of outer Bantry Bay. It is 6.2 km<sup>2</sup> in area, and its boundaries are the northern shore of Bere Island eastwards from Sheep Islands to Donegans Point, thence from Donegans Point across Berehaven to Coarrid Point on the mainland, westwards along the mainland coast from Coarrid Point to Minanekeal, and from Minanekeal across Berehaven back to Sheep Islands.



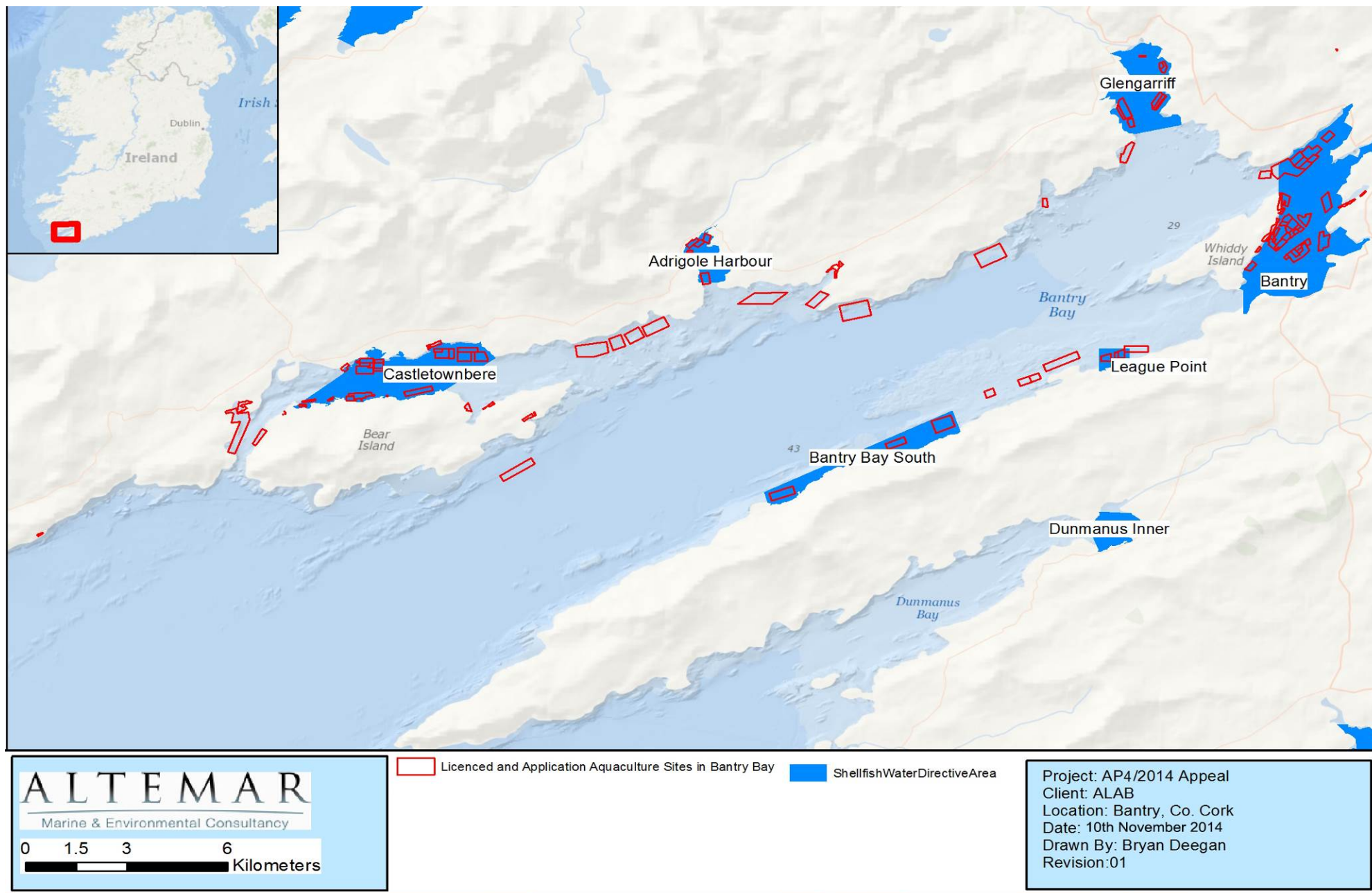
- c. **Bantry Bay South Shellfish Area** is 2.9 km<sup>2</sup> in area and is located on the southern shoreline of Bantry Bay, extending out in the bay along the shoreline from Collack to Indigo Rock.
- d. **Adrigole Harbour Shellfish Area** lies within Adrigole Harbour on the northern shore of Bantry Bay, and is 1.4 km<sup>2</sup> in area. It includes the relatively sheltered inner part of Adrigole Harbour, and the more exposed outer area south of Orthon Island. The aquaculture site (T5/573 N2) is within this Designated Shellfish Area
- e. **Glengariff Shellfish Area** is located in Glengariff Harbour at the north-eastern corner of Bantry Bay. The designated shellfish area is 4.1 km<sup>2</sup> in area and includes all of Glengariff Harbour. The southern boundary of the designated area is a line from Big Point on the western side of Glengariff Harbour entrance to a point immediately south of Illauncreeveen on the eastern side of Glengariff Harbour.
- f. **League Point Shellfish Area** is 0.5 km<sup>2</sup> in area and is located on the southern shoreline of Bantry Bay, extending out into the Bay east of League Point.

Aquaculture is currently carried out in Adrigole Harbour. Based on the Departmental records (GIS shapefile provided) there are three licenced aquaculture sites in the Harbour (Figure 5). T05/084C is a “licenced” suspended mussel farm to Daniel O’Shea, Bantry. As can be seen from Figure 5 it was active in March 2012 (date of image) and it was active when the site was visited on October 25<sup>th</sup> 2014. However, based on the Departmental records the licence lapsed on 20/02/2010. The two currently “licenced” sites in the intertidal (T05/084A & T05/84B) near the appeal site are also licenced to Daniel O’Shea for oysters and clams, but the lapse date on the licence is the 10/08/2009. As can be seen from



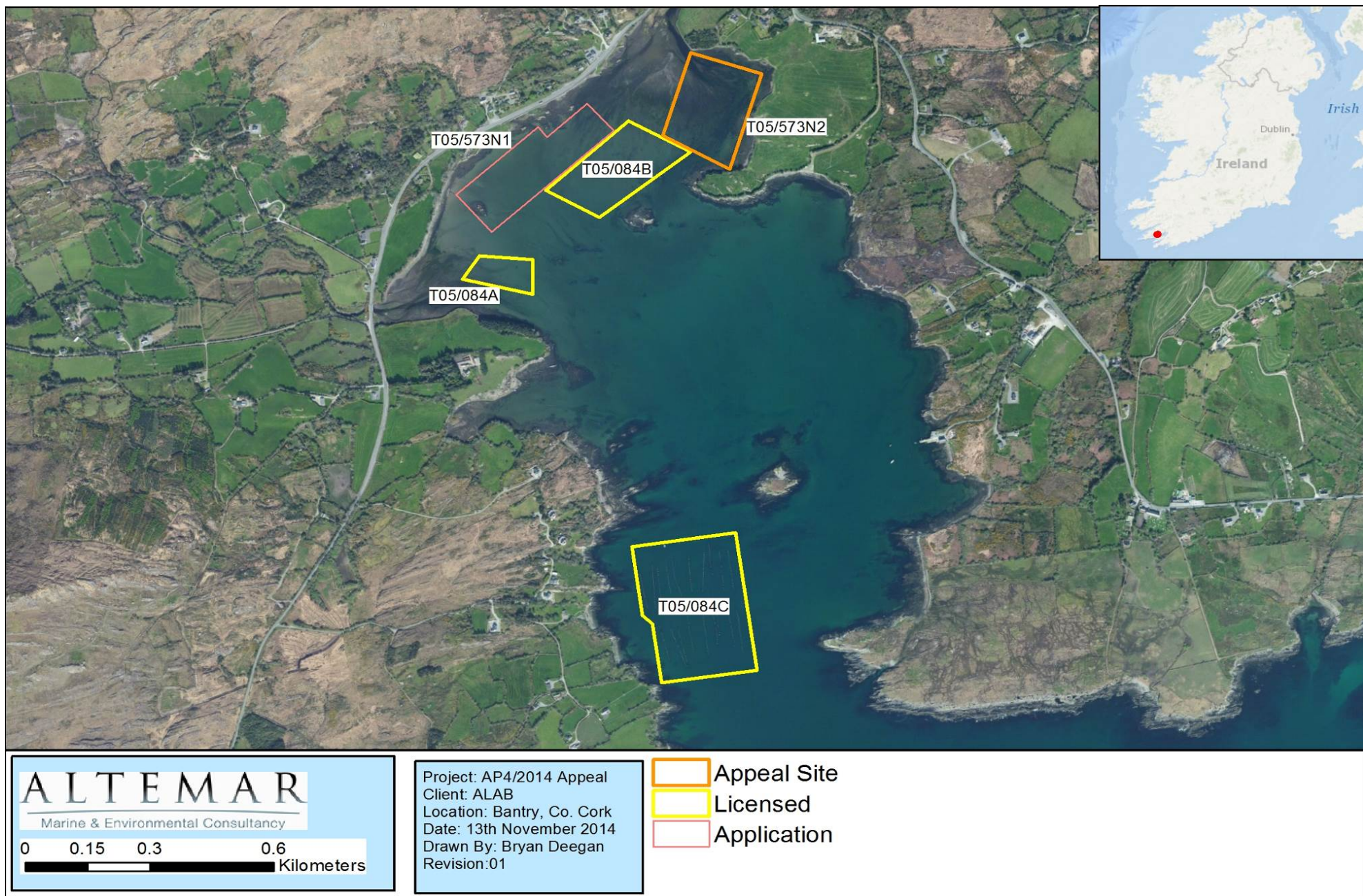
Figure 5, in March 2012 there were no trestles on site T05/084A and only three trestles at the eastern corner of T05/084B. A similar situation was seen during the site visit at T05/084B, but activity had increased to 6 rows of trestles at the eastern end of T05/84B (Plate 1). T05/573N1 was an “application” that was submitted by the same applicant at the same time as the current appeal site (John Crowley, Faha, Adrigole). However, based on the “Recommendation to Grant an Aquaculture Licence” it was stated that “The Department’s Engineering Division considers that there is potential for the proposed sites N1 and N2, taken in conjunction with the existing renewal applications, to have a significant cumulative negative visual impact on the very high value scenic landscape. It is further recommended that only one site (N2) be licenced to mitigate this impact.”

**Plate 1.** Trestles on site T05/84B beside the proposed aquaculture site.



**Figure 4:** Designated Shellfish Waters and shellfish aquaculture sites in Bantry Bay, Co. Cork.





**Figure 5:** Aquaculture Sites within Adrigole Harbour.

## Angling and Inshore Fishing Activity

The Inshore Fishing Atlas (2006) GIS shapefiles (<http://data.marine.ie/Dataset/Details/20963>) were consulted in relation to this application. Fishing methods used in Bantry Bay include, bottom trawling for Nephrops, whiting and other white fish; midwater trawling for pelagic species; tangle netting; line fishing; setting pots for large and small crustacea (lobsters, crabs, Nephrops and shrimps); bottom dredging for scallops; and, gathering of periwinkles by hand. According to these data, even though the site is intertidal, the area where the site is proposed is used for hook and line fishing and chartered angling.

### Inshore Angling

According to Inland Fisheries Ireland in its assessment of shore angling in Bantry Bay (<http://www.fishinginireland.info/sea/maps/docs/Bantry%20Bay.doc>) there are 25 sites suitable for shore angling in Bantry Bay. Adrigole Harbour was not cited as a main shore angling area. It is however stated that in the Harbour “lugworm can be dug on middle banks, also in the mud inshore mussel beds.”

## Tourism and Leisure Uses

The South-West region (Cork/Kerry) is the most popular holiday destination in Ireland with over a quarter of all holidaymakers travelling to this region (Fáilte Ireland, 2009), and has accommodated the highest number of foreign tourist nights in the country in recent years. The potential of the marine tourism industry has been clearly acknowledged (Heritage Council and Fáilte Ireland 2009; Fáilte Ireland, 2007), with the region’s natural assets providing the principal attraction for visitors (Kopke *et al.*, 2008).

No definitive figures are available for tourism in Bantry, but it is generally agreed that tourism and recreation are important contributors to the local and regional economy of Bantry Bay. Onshore attractions include Bantry House, the Bamboo Park at Glengarriff, Glengarriff Wood and the Marine Heritage Centre in Castletownbere. Every year, a number of cruise liners enter Bantry Bay to anchor in either Glengarriff Harbour, or Inner Bantry Harbour.

The Marine Leisure Infrastructure Strategy for the 720 km coast of West Cork, published in 2008, was commissioned by Cork County Council. It was to address the lack of leisure facilities by improving infrastructure in old fishing harbours and by developing slipways and associated facilities in popular holiday destinations in West Cork, to augment the established services. The Strategy lists the following marine leisure activities: sea angling from boats and from the shore, sailing (racing and cruising), board sailing, surfing, scuba diving, snorkelling, rowing, canoeing, power-boating, water-skiing, swimming, enjoyment of beaches, whale and dolphin watching, bird watching from the coast or at sea, visiting the beach or seaside, visiting islands and coastal walks. All of these activities are available to varying extents in Bantry Bay, and the Strategy designates Bantry and Castletownbere as proposed primary hubs for tourism and recreation, Glengarriff and Rerrin on Bere Island as proposed secondary hubs, and the remainder of the piers owned by Cork County Council as proposed tertiary hubs.

“The Wild Atlantic Way is a world-famous coastal route that spans seven of Ireland's counties, taking in



some breath taking scenery along the way. From Donegal to Galway, Kerry to Cork, the Wild Atlantic Way is a journey of discovery” (Discover Ireland, 2014). The R572 forms part of the Wild Atlantic Way initiative and runs along three sides of Adrigole Harbour. The northern shore of Adrigole Harbour, the R572, beside the proposed aquaculture site, also forms part of the Beara Way.

A marine Leisure Audit & Carrying Capacity Study for West Cork was prepared for Cork County Council by the Coastal and Marine Resources Centre in 2008 (<http://www.corkcoco.ie/co/pdf/135523873.pdf> & <http://www.corkcoco.ie/co/pdf/135523873.pdf> ). Adrigole Harbour has two access points for fishing based activities, however it is not classed as a cluster for boat based or shore based fishing activity. Adrigole is the base for the West Cork Sailing and Powerboat Centre and the Harbour has 7 mooring buoys. The Adrigole area is seen as an activity cluster for sailing, but not for yacht charters. As seen in Plate 2 yacht charters were offered as part of West Cork Sailing. Based on this 2008 report Adrigole does not possess an activity centre. However, a kayaking/canoeing activity centre was noted during the site visit at the pier 850m to the SE of the proposed aquaculture site “Kayak with the Seals” activity was noted. Kayaking and canoeing was also mentioned in the report as part of the West Cork Sailing and Powerboat Centre in addition to diving in Adrigole Harbour. Adrigole was not noted in this report as a centre for surfing, windsurfing, kitesurfing, boat tours, beaches or whale, bird or dolphin watching.

### Agricultural Activity

The proposed site is located within the Adrigole Harbour Designated Shellfish Area (Figure 4). Based on the information provided in the Site Characterisation Report” “less than 40% of the area of this catchment is farmed land and the estimates of livestock density and fertiliser usage are lower than 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, does not highlight any diffuse risk areas in this catchment. However, the prevalence of wet soils in the catchment could result in runoff from agricultural land and the steep slopes could increase the risk of runoff. Agriculture is a possible source of the faecal contamination indicated by shellfish monitoring and therefore agriculture could possibly be affecting shellfish water quality in this shellfish area.”

Table 1 “provides an estimate of the average number of dairy and drystock livestock units and the average loadings of nitrogen and phosphorus chemical fertiliser per hectare of farmed land within the contributing catchment area. The figures beneath the table express the nitrate limit (and Ireland’s derogation) under the Nitrates Directive in terms of livestock densities. Discharges related to agriculture can affect the levels of faecal coliforms, suspended sediments, nutrients and dissolved oxygen in receiving waters. In addition, the use of pesticides and herbicides can introduce a range of harmful



**Plate 2.** Marine Leisure notice near proposed site

chemicals to the water environment.”

**Table 1.** Livestock units and chemical fertiliser usage

Indicator	Catchment (per ha of farmed land)	National Average (per ha of farmed land)
Livestock units	0.61 LU	1.20 LU
Nitrogen fertiliser usage	88.35 kg	92.09 kg
Phosphorus fertiliser usage	6.22 kg	9.74

Nitrates Directive limit = 170 kg N per hectare = approx. 2 LU per hectare

Nitrates Directive derogation = 250 kg N per hectare = approx. 3 LU per hectare.

### Other Activities

Based on the appeals received:

- 1) “this area of the harbour has been used by many locals for centuries to dig and sell clams, periwinkles and other shellfish”
- 2) “ a lot of my friends dig clams and pick periwinkles in the area”
- 3) “ I....have been picking shellfish in Adrigole Harbour since 1976” “
- 4) “The granting of this licence for “Oyster farming” will destroy my livelihood and the picking of shellfish in the area.”



During the site visit a dig over was carried out and the edible Common Cockle (*Cerastoderma edule*) and the Common Otter Shell (*Lutraria lutraria*) were found in the western higher sandflat portion of the site, away from the river. No mounds or other evidence of digging over the past few tides was seen.

## 5.3 Environmental Data

### 5.3.1 Site Location/Suitability

Section 61 (a) of the Fisheries (Amendment) act 1997, which refers to “the suitability of the place or waters at or in which the aquaculture is or proposed to be carried on for the activity in question.” In order to assess the suitability of the site, the site was visited by Bryan Deegan on the 25<sup>th</sup> October 2014. A walk over assessment of the site was carried out at Low Water Spring tide and observations were also made at High Water Spring tide.

Satellite imagery of the site, seen in Figure 8, was taken in March 2012. The proposed aquaculture site (T05/573 N2) is outlined in orange. Plate 3 shows the eastern portion of the site at Low Water Spring through which the River Adrigole flows at low tide. Plate 4 shows the western portion of the site on the higher sand flat/ gravel area. Plate 5 was taken to the North of the site and looks upstream of the Adrigole River. Plate 6 was taken at Low Water Spring in the centre of the site looking upstream at the tree debris that has been brought down the Adrigole River. Plate 7 was taken at Low Water Spring in the centre of the site looking south at the Adrigole River. Plate 8 was taken at High Water Spring at the pier 190m to the NW.





**Figure 8:** Location of proposed site overlaid on satellite imagery (Bing Maps, March 2012).





**Plate 3:** Eastern Portion of the site (Location and point of view see Figure 5)



**Plate 4:** Western Portion of the site (Location and point of view see Figure 5)





**Plate 5:** North of the aquaculture site looking upstream of the Adrigole River



**Plate 6:** Tree debris from the Adrigole River on the eastern portion of the site





**Plate 7:** Southern section of the site.



**Plate 8:** High Water Spring overlooking the site.

### 5.3.2 Water Quality

#### Environmental Protection Agency (EPA) Results

The EPA Marine Monitoring Programme analyses for general components in water samples at a large number of coastal and transitional waters around Ireland. Bantry Bay is not one of the bays covered by this programme. The closest bays that are monitored are Kenmare River and Roaringwater Bay to the North and South respectively. Both of these bays were classed as “unpolluted” (EPA, 2012). Both summer and winter dissolved inorganic nitrogen and molybdate reactive phosphorus levels in Kenmare were the lowest levels on the reference scales i.e. less than 25 mg/l and 20ug/l respectively while in Roaringwater Bay (near Baltimore) these levels were slightly elevated.

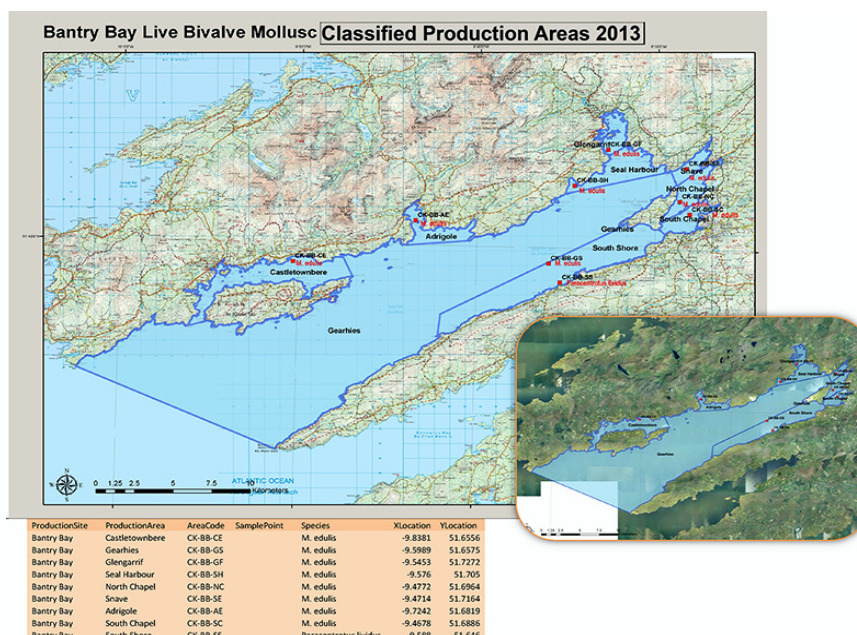
#### WFD Monitoring Programme

The proposed site is covered under the Beara Peninsula WMU. The Adrigole River 21\_8052 and other sections of the catchment are all classed as having a “good status” based on biological Q value data from 2006, 2009 and 2012.

#### Shellfish Flesh Monitoring Programme

Shellfish flesh classifications 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)) indicate faecal contamination in shellfish flesh. Sampling is carried out by the Sea Fisheries Protection Authority (SFPA) on at least a monthly basis.

The licensed area is within “Adrigole” area (Figure 9) which is classed as “B” for mussels (Table 2). Based on the “Revised / Updated Adrigole Harbour Pollution Reduction Programme” (2013), “the results of monitoring (2009) undertaken for the purposes of the Shellfish Waters Directive (2006/113/EC) and Schedules 2 and 4 of the Quality of Shellfish Waters Regulations (S.I. No. 268 of 2006) indicated faecal contamination within / in the vicinity of this shellfish area. The most up to date results of monitoring (2012) indicate that this area is not in compliance with the Guide Value of 300 faecal coliforms / 100ml. The results of Shellfish Water monitoring do not indicate any water quality issues within / in the vicinity of this shellfish area.



**Figure 9.** Bantry Bay Classified Production Areas



**Table 2:** Bantry Bay 2014/15 List of Classified Bivalve Mollusc Production Areas (08 July 2014)

Boundaries	Bed Name	Species	Class	Notes
Ardnakinna Point to Fair Head and Lonehort Point to Bank Harbour	Castletownbere	Mussels	A*	*Seasonal Classification 01 Sept – 01 Jan reverts to Class B at other times
Area bounded to the North by a line from Gortnakilla Pier to a point at 51° 37.5'N, 09° 42'W to Whiddy Point		Urchins	A#	
West to Relane Point. Sheep's Head to Black Ball Head	Gearhies	Mussels	B	
	Glengarrif	Mussels	B	
	Seal Harbour	Mussels	A	
	North Chapel	Mussels	B	
	Snave	Mussels	B	
	<b>Adrigole</b>	<b>Mussels</b>	<b>B</b>	
	South Chapel	Mussels	B	
	South Shore	Urchins	A	

It was also stated in this report that in response to the Pollution Reduction Programme that Cork County Council has:

- “carried out inspections on an estimated 40 dwellings which are located within 100m of the designated shellfish area to determine whether they have some form of sewage treatment system and if they are discharging directly to the water of the designated shellfish area.
- Identified that the main potential source of microbial contamination is from dwellings in the lands adjoining the shellfish waters discharging untreated effluent to the waters
- identified a measures/enforcement programme to be implemented under the Water Pollution Act and Section 70 of the Water Services Act.”

#### *On-site waste water treatment systems*

As outlined in the Site Characterisation Report Table 3 “summarises the numbers of on-site waste water treatment systems (OSWWTS) within the catchment up to a distance of 20 kilometres from the designated shellfish area and outlines how many of them are located in areas of high risk to surface and groundwaters from pathogens and phosphorus and how many of them are located in areas where the likelihood of inadequate percolation of leachate is high.” Figure 10 “illustrates the locations of the OSWWTSs while” figure 11 “illustrates the likelihood of inadequate percolation, all of which is based on soil, sub-soil and geological characteristics. Generally, systems located in areas where effluent cannot get away underground pose a risk to surface waters while systems located in areas where the effluent moves too quickly through the subsoil pose a risk to groundwaters. OSWWTS effluent can impact on the levels of faecal coliforms, suspended sediments, nutrients and dissolved oxygen in receiving waters. In addition, the use of household cleaning products can introduce a range of harmful chemicals to the water environment. There are 180 systems in the catchment (including the settlement at Adrigole) and their density is 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

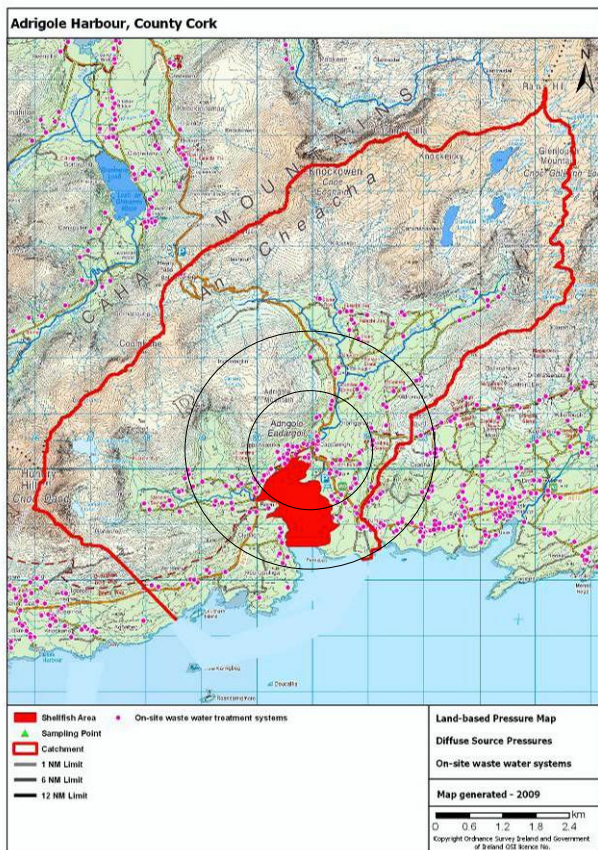
systems are selected, whether they are installed correctly, whether they are properly maintained and whether they are situated close to the designated shellfish area or to ditches, drains, watercourses, wells or boreholes. It is therefore likely that a substantially smaller number than the total number of systems in the catchment are posing a risk to surface and groundwaters. Shellfish monitoring indicates faecal contamination in this shellfish area which could be arising from this source. These systems therefore could possibly be affecting shellfish water quality in this shellfish area.”

**Table 3.** The numbers of on-site waste water treatment systems (OSWWTS) within the catchment

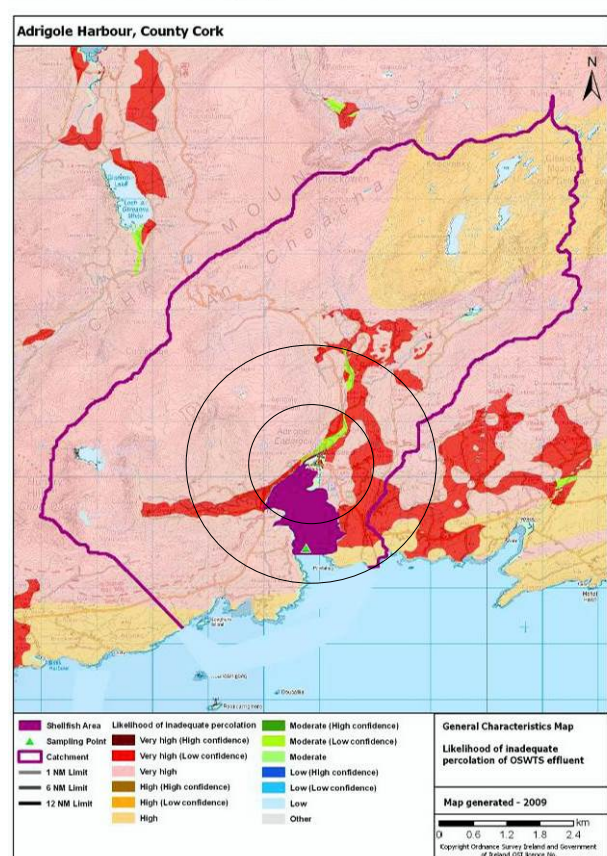
<b>Risk</b>	<b>Number</b>	<b>% of total</b>
Total number	180	-
Number per km2 in the catchment	3.62	-
Number per km2 nationally	1.4	-
Number that are high risk to surface waters from pathogens	172	95.55%
Number that are high risk to groundwaters from pathogens	113	62.77%
Number that are high risk to surface waters from phosphorus	172	95.55%
Number that are high risk to groundwaters from phosphorus	108	60.00%
High likelihood of inadequate percolation of leachate	166	92.22%

The Environmental Protection Agency, in a communication to ALAB (19<sup>th</sup> January 2015) stated that the Environmental Protection “Agency does not have any direct monitoring information or data on water borne bacteriological loadings to the area concerned. However, the Agency has developed national risk maps for domestic onsite waste water treatment systems which form the basis of the National Inspection Plan for Domestic Waste Water Treatment Systems (2013). These maps support the findings of the risk assessment in relation to pathogens reported in the Technical Advisory Report forwarded by ALAB.” ..... “In addition you may be aware of a report prepared by the Marine Institute for the Department of Environment, Community and Local Government (MI, 2013). The study found regular exceedances of guide values of *E. coli* in shellfish flesh during August and November, suggesting seasonal influences.”

In the Marine Institute report (MI, 2013) bacteriological samples were analysed from 59 sites nationally, the vast majority of which were sampled on 16 occasions between February 2009 and November 2012. August 2009 results from Adrigole of 18,000 *E. coli* MPN 100g<sup>-1</sup> were the joint highest results seen Nationally during the entire survey. Only three other sites Nationally saw similar levels of contamination at some stage during the survey. However, Adrigole had 80 % bacteriological levels compliance, with results less than the guide value of 230 *E. coli* MPN 100g<sup>-1</sup>.



**Figure 10.** Onsite waste water systems



**Figure 11.** Likelihood of inadequate percolation

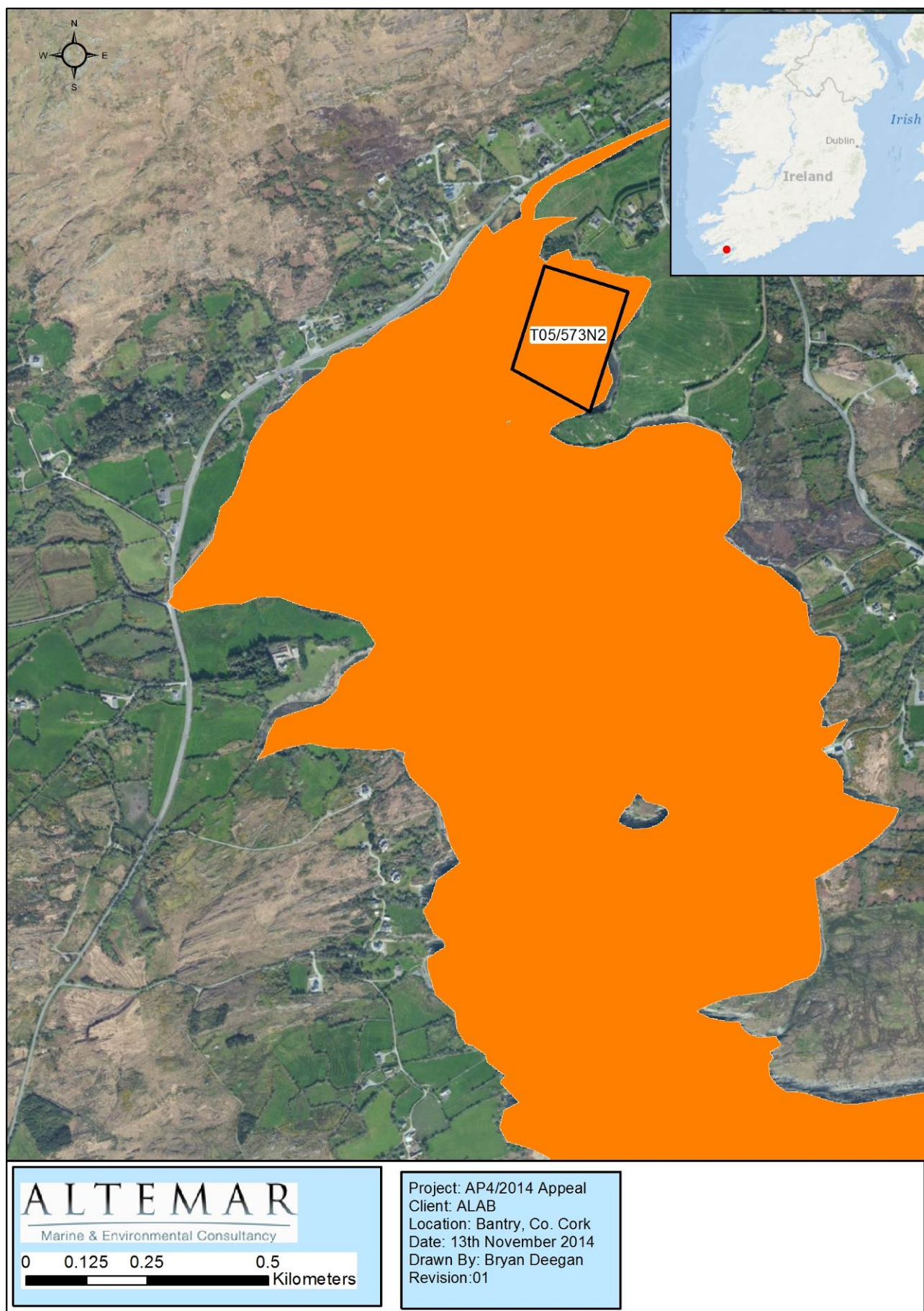
## Bathing Water Quality

Bathing Water quality is not monitored by the EPA within Adrigole Harbour or even Bantry Bay. The nearest location where bathing water quality is monitored is Barley Cove, approximately 20 km to the southwest. For the 2013 bathing season, Barley Cove achieved good water quality status and complied with the EU guideline standards. In 2012 it achieved sufficient water quality status and complied with EU mandatory values. Barley Cove had good water quality status for the previous 10 years.

### 5.3.3 Benthic Habitats

The proposed site is not located within a Special Areas of Conservation, Special Protection Area, Natural Heritage Area, a proposed Natural Heritage Area or RAMSAR site. The site has not been subject to the NPWS or Marine Institute habitat mapping programmes. As a result limited data on benthic habitats is available. The BioMar survey in 1993, did not include intertidal or subtidal sites in Adrigole Harbour (BioMar Viewer). Emblow 1994 stated that Adrigole Harbour “Adrigole Harbour, which dries to expose a muddy and mixed sediment bottom” possess a “marsh containing several uncommon plant species including the Water Crowfoot *Ranunculus tripartitus* and the sedge *Carex punctata*.” The Marine Strategy Framework Directive Predicted Habitat for Adrigole Harbour is Shallow sublittoral mixed sediment (Figure 12).





**Figure 12.** Marine Strategy Framework Directive MSFD predicted habitat type the area of the proposed aquaculture site

### 5.3.4 Biotoxicology

The Marine Institute carries out shellfish monitoring at designated shellfish areas. This dedicated shellfish monitoring programme involves analysing for general components, metals and organics in both water and biota samples. The proposed aquaculture site is within “Adrigole” (CK-AE-AE). Reports from the Marine Institute (<http://www.marine.ie/home/publicationsdata/data/habs+search+database/>) HABS website were examined from 2002-2014.

All samples pertained to the blue mussel (*Mytilus edulis*) with the exception of two samples of *Crassostrea gigas* (Table 4), the species that would be grown within in the general area of the site under appeal. Of the 299 status records during this period 173 were “open”, 47 “closed pending” and 79 “closed” due to a mixture of positive bioassay, AZP and some instances of DSP. All samples for PTX and YTX were below the levels of detection.

**Table 4.** Marine Institute Results for *Crassostrea gigas* sampling in Adrigole 2002-2014

Production Area	Sample Site	Sample Date	Species	Tissue	DSP Bioassay: EU Harmonised Method	PSP Bioassay: AOAC method	AZP ug/g	DSP ug/g	Status	
Adrigole	CK-AE-AE	02/01/2002	<i>Crassostrea gigas</i>	Hepatopancreas	negative(e)				Open	
				Whole			n.d.(e)	n.d.(e)		
Production Area	Sample Site	Sample Date	Species	Tissue	AZP ug/g	DSP ug/g	PSP ug/Kg STXdiHCL equivalents	PTX ug/g	YTX ug/g	Status
Adrigole	CK-AE-AE	25/07/2012	<i>Crassostrea gigas</i>	Whole	0.03(a)	0.05(a)				Closed Pending

### 5.3.5 Other

The proposed site is not within a marine munitions or dumping site based on Marine Institute records.

## 5.4 Statutory Status

### 5.4.1 Nature Conservation Designations

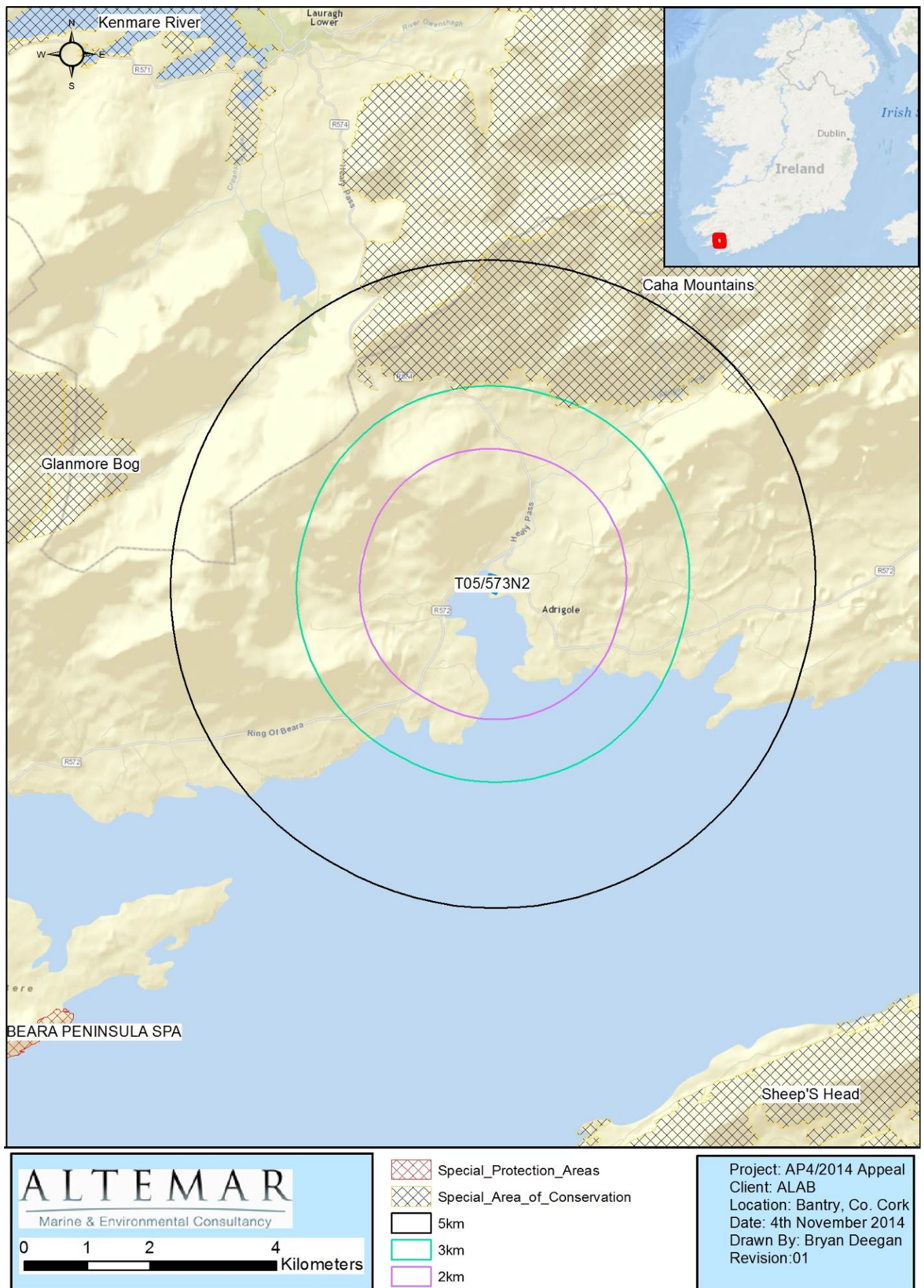
The proposed aquaculture site is not located within a NATURA 2000 or other protected site. There are a number of protected sites located nearby including SAC's and SPA's, (Figure 13), NHA's and pNHA's (Figure 14). There are no Special Protection Areas, within 5km of the proposed site. The Caha Mountains SAC (000093) is 3 km and Glanmore Bog SAC (001879) is 6km from the proposed site. Hungry Hill Bog NHA is the closest NHA at 2 km, while Trafrask Bog NHA is 4km from the proposed site. Orthan's Island pNHA is 880m to the SW and Roancarrigbeg and Roancarrigmore pNHA is approximately 4 km from the proposed site. Species of interest at Orthan's Island include the harbour seal, black headed gull (*Larus ridibundus*) and a nationally important population of the Arctic tern (*Sterna paradisaea*)(FIE,2013)

Table 3 contains the details of the NATURA 2000 sites (SAC & SPA's) and its qualifying interests within 5km of the proposed aquaculture site.



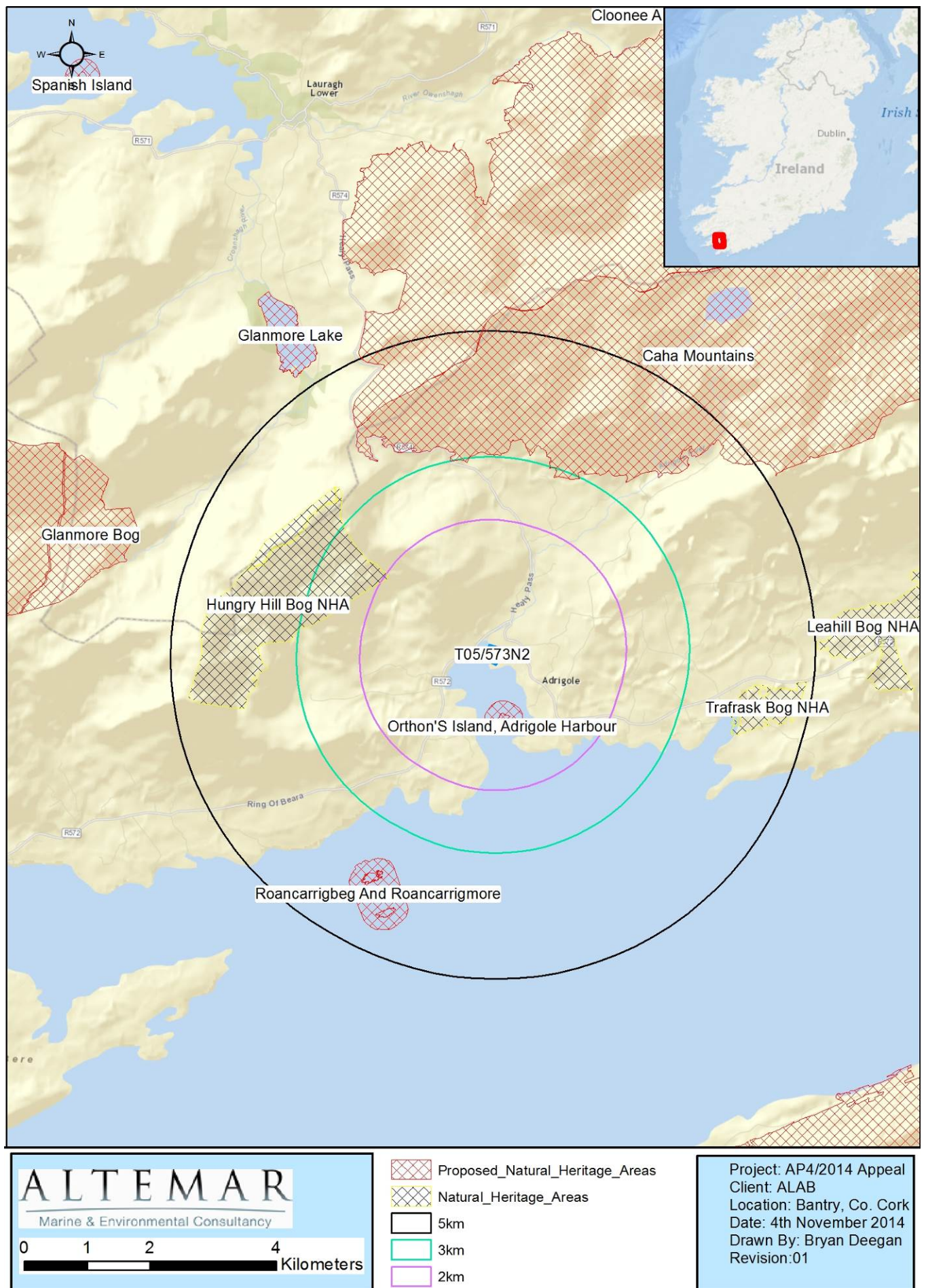
**Table 3:** NATURA 2000 sites within 5km of the proposed aquaculture sites and qualifying features.

<b>Qualifying features (EU Importance) and conservation objective</b>
<p>Caha Mountains SAC [000093]</p> <p>The Caha Mountains consist of Old Red Sandstone and form part of the backbone of the Beara Peninsula, between Turner's Rock (on the Glengarriff f-Kenmare Road) and the Healy Pass. Within the site there are a series of peaks and ridges up to 630 m high, radiating out from Caha Mountain itself. The southerly directed ridge forms a broad boggy plateau studded with small lakes. The area also features glacial valleys and corries, such as the one within which Barley Lake occurs. Generally, the terrain is rocky with many of the slopes featuring short rock faces interspersed with grassy shelves, known locally as 'benches'. Substantial cliffs are present in the north-western half of the site.</p> <p>Blanket bog supports typical blanket bog vegetation with several noteworthy mosses. Knockastumpa Bog has been described as one of the best saddle bogs in the country. Alpine and Boreal heath support relatively rare plants such as Wilson's Filmy Fern and Green Spleenwort, while Siliceous rocky slopes host the very rare and legally protected (Flora Protection Order, 1999) Recurved Sandwort. Otter, an Annex II (EU Habitats Directive) species, as well as the Annex I (Birds Directive) species Peregrine Falcon, Chough and Hen Harrier also occur within the site.</p> <p>The principal land uses are extensive sheep grazing , localised small-scale peat extraction and recreational fishing. A small hydroelectric scheme is present above Glen Lough.</p> <p>[Objective: To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected: The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network. The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.</p> <p><i>Geomalacus maculosus</i> [1024]</p> <p><i>Trichomanes speciosum</i> [1421]</p> <p>Oligotrophic to mesotrophic standing waters with vegetation of <i>the Littorelletea uniflorae</i> and/or of the <i>Isoëto - Nanojuncetea</i> [3130]</p> <p>Natural dystrophic lakes and ponds [3160]</p> <p>Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010]</p> <p>Alpine and Boreal heaths [4060]</p> <p>Blanket bogs (* if active only) [7130]</p> <p>Siliceous rocky slopes with chasmophytic vegetation [7130]</p>



**Figure 13:** Special Areas of Conservation and Special Protection Areas within close proximity to the proposed aquaculture sites.





**Figure 14:** Natural Heritage Areas and proposed Natural Heritage Areas within close proximity to the proposed aquaculture sites.

## 5.5 Bantry Bay Species Records

### 5.5.1 Cetaceans

The Irish Whale and Dolphin Group Cetacean Sightings ([www.iwdg.ie](http://www.iwdg.ie)) in the vicinity of the proposed aquaculture site are seen in Figure 15. As can be seen from figure 10 based on IWDG records there are no sightings of cetaceans in Adrigole Harbour. However, based on the West Cork Sailing website and in submissions from the appellants “dolphins” do occur in Adrigole Harbour. Cetaceans were not observed during fieldwork.

### 5.5.2 Birds

The proposed site is not within a Special Protection Area (Birds Directive) or Ramsar site. During the site visit bird species were seen included curlew (3), oystercatcher (2), an egret, mallard (3), hooded crow (2). American wigeon and goosander have been also recorded in the Bay. Two swans were seen feeding on *Ulva intestinalis* found in the estuarine element of the River within the proposed site. Due to the paucity of bird data from this site, the NPWS Ranger (Clare Herdman) was consulted in relation to species of conservation interest. The NPWS ranger stated that to her knowledge there were no birds of conservation importance beyond the species mentioned above are seen in this area. NPWS in a letter to ALAB (5<sup>th</sup> February 2015) stated that “the harbour supports a nesting pair of Mute Swan. The location of T5/573 N2 does not include the area where they nest which is the main point at which disturbance could be an issue. The swans in Adrigole Harbour nest close to a main road and the additional disturbance as a result of the aquaculture is unlikely to have a significant impact on the swans. Mute Swan is a common and widespread species in Ireland.”

### 5.5.3 Harbour or Common Seals (*Phoca vitulina*) and Grey Seals (*Halichoerus grypus*)

Harbour and grey seals are designated under Annex II EU Habitats Directive. Data from National grey and harbour seal surveys carried out by NPWS were examined (NPWS, 2003 & Lyons 2004). The “principal sites for Harbour seals continue to be found in the inner reaches of the Bantry Bay, i.e. Whiddy Island area and Glengarriff Harbour”. From 1978 to 2003, a total of 251 observations were made on this population. The population had been increasing since 1978 with a maximum count of 403 adult common seals (2003). Only two Grey Seals were counted in Bantry Bay out of all the sites surveyed for common and grey seals in Bantry Bay, County Cork from 1978 to 2003 by NPWS (Lyons 2004).

In recent years, 303, 268 and 329 harbour seals were recorded in Bantry Bay on 7<sup>th</sup> Sept 2006, 10<sup>th</sup> Sept 2007 and 15<sup>th</sup> Sept 2008 respectively (NPWS, 2010). A peak exceeding 400 animals in the bay, as a whole, was recorded in 2003. Local disturbance of harbour seals (i.e., evacuation of haul-out sites) was recorded in inner Glengarriff Harbour in 2011. This was due to people walking ashore on sites normally occupied by seals, while fishing activity adjacent to Coulagh Rocks also led to seals entering the water. A notable increase in harbour seal numbers was observed within Glengarriff Harbour. While this coincided with significantly reduced recreational activity in the area, it may also have been a natural phenomenon linked to prevailing weather conditions or other biological or environmental factors

(NPWS 2011). In recent years 23 and 27 Harbour seals have been recorded on 28<sup>th</sup> August 2007 and 10<sup>th</sup> September 2007, respectively during surveys by regional staff in Adrigole (NPWS 2011).

A survey of Adrigole was carried out by NPWS 2009 and 2010. A maximum number of 35 and 36 harbour seals were sighted in Adrigole Harbour in these surveys respectively. In 2009, disturbance was due to fishing activity in addition to leisure/recreation activities. In the 1979-2003 surveys by NPWS (Lyons,2004) no grey seals were seen in Adrigole Harbour. Harbour seals are also recorded as being present in Adrigole Harbour on the National Biological Data Centre viewer. Two harbour seals were seen during the site visit at High Spring Tide bottling over the proposed aquaculture site. NPWS in a letter to ALAB (5<sup>th</sup> February 2015) stated that “in 2014, National Parks and Wildlife Service (NPWS) recorded 33 common seals hauled-out in Adrigole Harbour. However, their haul-outs are on rocky islets further out in the harbour and not in or near the intertidal flats where the aquaculture is proposed. Some of the seals forage at the mouth of the river within the proposed licence area. However, they forage throughout Bantry Bay and the development is unlikely to have a significant impact on the seals.”

#### 5.5.4 Otter -*Lutra lutra*

Otters are designated under Annex II EU Habitats Directive. Otters have been noted in Adrigole Harbour (FIE, 2013, NBDC, Mapping and appellants in Appendix I). No evidence of spraints was found during fieldwork. However, it would be expected that otters would be present in the area, given the proximity of the record noted in the National Biodiversity Data Centre on line repository, 1 km to south west, near the mussel farm.

#### 5.5.5 Salmon –*Salmo salar*

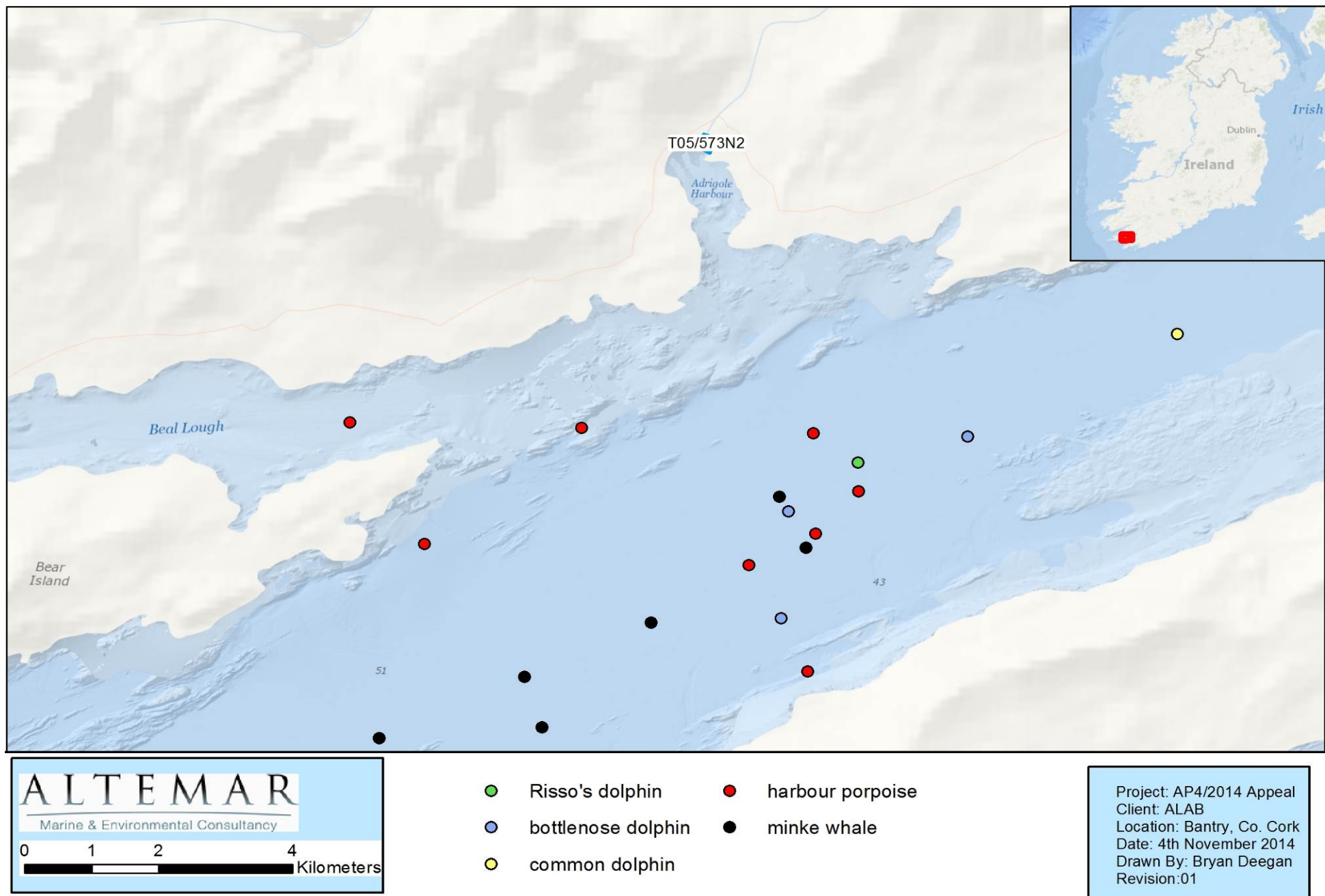
The proposed aquaculture site is located on the estuarine element of the Adrigole River. Salmon are designated under Annex II EU Habitats Directive. Based on CFB (2003) “quantification of Freshwater Salmon Habitat Asset in Ireland”, the Adrigole River is a “salmon/seatrout river”. The Adrigole River is classed as “Not Threatened With Loss” under the North Atlantic Salmon Conservation Organization Rivers Database (<http://www.nasco.int/RiversDatabase.aspx>). In the survey carried out by Inland Fisheries Ireland in 2012, approximately 1.2km upstream of the proposed aquaculture site (Kelly *et al.* 2013) “three fish species were recorded”. Salmon was the most abundant species, followed by brown trout and eels” with densities of 0.130, 0.058 and 0.023 per m<sup>2</sup> respectively. A fishing based assessment of the Adrigole River is seen in Table 4.

On the 28<sup>th</sup> January 2015, IFI confirmed to ALAB that the Adrigole is a salmonid river and that “the proposed aquaculture site at the mouth of the river could possibly have a significant impact on fish migration. On the precautionary principle it is probably better to select another site for the proposed operation”.

**Table 4.** Fishing based website <http://www.infowing.ie/> classed the fishing the in the river as follows:

<b>Location:</b>	The Adrigole river is west of the village of Kenmare and flows along the coast of Bantry Bay.
<b>Fish:</b>	<b>Salmon</b>
<b>Description:</b>	This is a small stretch of water which contains runs of Grilse and Sea trout during the month of June.
<b>Season:</b>	Salmon season is between March 17th - September 30th, while the Sea trout are caught between March 17th - October 12th.
<b>Methods:</b>	Usually fly and spin.
<b>Cost:</b>	Permission to fish on this river can be obtained from John O'Hare, Kenmare Angler's Association, Tel 064-41499.
<b>Fish:</b>	<b>Trout</b>
<b>Description:</b>	This is a small stretch of water which contains runs of Grilse and Sea trout during the month of June.
<b>Season:</b>	Salmon season is between March 17th - September 30th, while the Sea trout are caught between March 17th - October 12th
<b>Methods:</b>	Usually fly and spin.
<b>Cost:</b>	Permission to fish on this river can be obtained from John O'Hare, Kenmare Angler's Association, Tel 064-41499.
<a href="http://www.infowing.ie/waterway/693/river+adrigole">http://www.infowing.ie/waterway/693/river+adrigole</a>	





**Figure 15.** Irish Whale and Dolphin Group Cetacean Sightings in the vicinity of the proposed aquaculture site.

## 5.6 Statutory Plans

There are no statutory plans that specifically deal with Bantry Bay. However, Bantry Bay is covered under the following plans:

### Cork County Development Plan

The Cork County Development Plan is currently at a transitional phase between the 2009 and 2013 plans.

#### 2009 Cork County Development Plan

##### *Aquaculture*

“In accordance with Government policy, the Council will support and promote the sustainable development of the aquaculture sector in order to maximize its contribution to jobs and growth in coastal communities and the economic well-being of the County. Furthermore, it is recognised that aquaculture harvesting and associated processing have the potential to provide an economically viable alternative to commercial fishing and aid sustainable rural diversification.”

##### *Scenic Routes and Scenic Lands*

“This plan has identified specific scenic routes and scenic landscapes which in general make up those areas of natural beauty and the important views and prospects that people in Cork and visitors to the County value most highly. In the case of scenic landscapes these are based on designations established by previous development plans. The scenic landscapes are currently being reviewed however, due to significant issues raised by rural communities it is considered that further consultation with the public is necessary before finalising the County’s scenic landscape.”

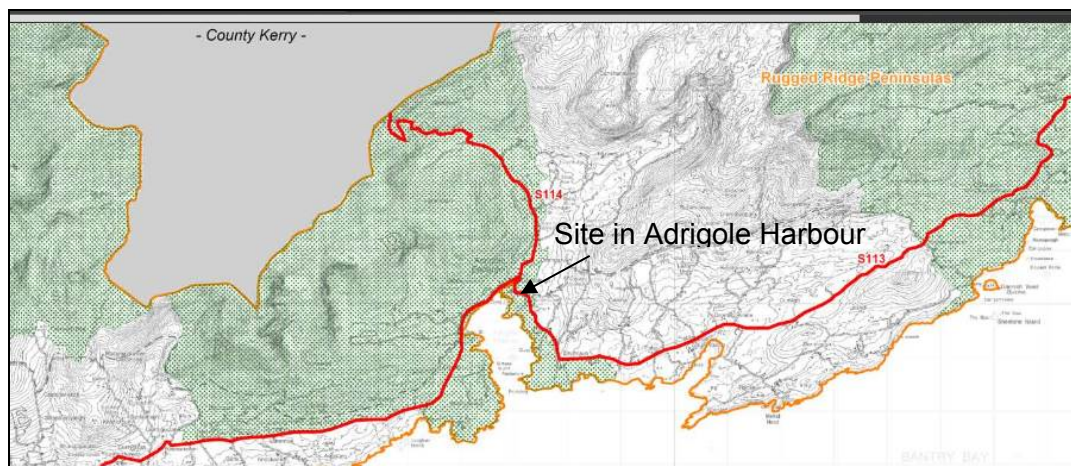
“7.2.29. It is the intention of the Council to finalise the Landscape Strategy for County Cork to include policy recommendations for the County Development Plan before proceeding with a Variation to the County Development Plan to give effect to the Landscape Strategy.”

“The established scenic routes include a variety of images, which relate to impressive or beautiful natural scenery. Any view or scene that is important to the image/character of an area can be defined as scenic. Scenic routes act as indicators of high value landscapes and identify more visually sensitive locations where higher standards of design, siting and landscaping are required. Scenic routes highlight the quality of the overall environment and landscape experienced within Cork County. It is important to protect the character and quality of those particular stretches of scenic routes that have special views and prospects particularly those associated with Scenic Landscapes.”

“7.2.32. The protection of these scenic routes and scenic landscapes is important in maintaining the uniqueness of Cork County and its distinctive landscape as a sustainable economic and tourist resource into the future. Whilst advocating the protection of such scenic resources the plan also



recognises the fact that all landscapes are living and changing, and therefore an objection in principle to development situated on or adjoining scenic routes is not proposed. This principle will encourage appropriate landscaping and screen planting of developments along scenic routes.”



**Figure 16.** Scenic Route (red line) and Scenic Landscape (green) (CCDP, 2009)

### *Objectives*

#### **“ENV 2-11 Scenic Routes**

“It is a particular objective to preserve the character of those views and prospects obtainable from scenic routes identified in this plan.” (Figure 16 above)

#### **ENV 2-12 Details of Scenic Routes**

“It is an objective to protect the character and quality of those particular stretches of scenic routes that have very special views and prospects.”

#### **ENV 2-13 Development on Scenic Routes**

(a) It is also an objective of the Planning Authority to require those seeking to carry out development in the environs of a scenic route and/or an area with important views and prospects, to demonstrate that there will be no adverse obstruction or degradation of the views towards and from vulnerable landscape features. In such areas, the appropriateness of the design, site layout, and landscaping of the proposed development must be demonstrated along with mitigation measures to prevent significant alterations to the appearance or character of the area.

(b) It is an objective to encourage appropriate landscaping and screen planting of developments along scenic routes. Where scenic routes run through settlements street trees and ornamental landscaping may also be required. Refer to Objective ENV 4-13, which provides guidance in relation to landscaping.”

#### **ENV 2-14 Viewing Points along Scenic Routes**

“It is an objective to consider the provision of viewing points at suitable locations as appropriate along specific routes. It is considered that this may be further examined through the review of the individual Local Area Plans containing scenic routes.”

## 2013 Draft Cork County Development Plan

The Draft Cork County Development Plan (2013) was presented to the Members of Cork County Council on 22<sup>nd</sup> October 2013 and approved for public consultation starting on the 9<sup>th</sup> of December 2013 and the final development plan adopted before the 8<sup>th</sup> January 2015. The proposed amendments were reviewed and do not pertain to aquaculture development.

The 2013 Draft Cork County Development Plan states that:

“The Government’s Food Harvest 2020 report sets out the strategy for the medium-term development of the agri food (including drinks), fisheries and forestry sector for the period to 2020.”

“6.7.5 It contains the industry vision for the sector and sets ambitious targets for expansion over the next decade. It contains recommendations aimed at achieving sustainable growth, increasing efficiency, higher productivity and competitiveness in primary agriculture, forestry and fisheries as well as in food and drink production. The growth targets for the industry are underpinned by significant production increases in the milk, beef, sheep, pigment, poultry and aquaculture sectors.”

### Business Development

*“County Development Plan Objective EE 9-1: Business Development in Rural Areas*

The development of appropriate new businesses in rural areas will normally be encouraged especially where:

- *The scale and nature of the proposed new business are appropriate to the rural area,*
- *The development will enhance the strength and diversity of the local rural economy,*
- *The proposal will not adversely affect the character and appearance of the landscape,*
- The existing or planned local road network and other essential infrastructure can accommodate extra demand generated by the proposal,
- The proposal has a mobility plan for employees home to work transportation,
- Where possible the proposal involves the reuse of redundant or underused buildings that are of value to the rural scene; and
- The provision of adequate water services infrastructure.”

### Fishing and Aquaculture

“Commercial Fishing and Aquaculture represent an important economic activity in rural coastal areas. This plan supports the provision of appropriate harbour infrastructure that facilitates a modern and innovative fishing industry.”

“6.11.2 The Council recognises and will continue to support the sustainable development of the aquaculture industry in order to maximise its contribution to employment and the economic wellbeing of rural coastal communities and the economic wellbeing of the county. This plan also recognises the important role aquaculture can play in the diversification of rural areas.”

*“County Development Plan Objective; EE 11-1: Fishing and Aquaculture*

- a) Support the use of existing port facilities for the catching and processing of fish as an economic activity that contributes to the food industry in the County.
- b) Support and protect designated shellfish areas as an important economic and employment sector.”

**Landscape**

“Seascape Assessment is an extension of landscape character assessment and with 1,100km of coastline; seascape is a crucial element of the County’s history, identity and culture. A number of changes have been occurring along coastlines including the need for coastal protection works, upgrading and proposals for new ports, marinas, proposals for aquaculture schemes and investigation of wind energy and other renewable energy projects off shore. It would be premature to consider the feasibility of carrying out a seascape assessment for County Cork until the preparation of a National Landscape Strategy have been completed and legislation on the future management of foreshore development have been published.”

*County Development Plan Objective GI 6-1 : Landscape*

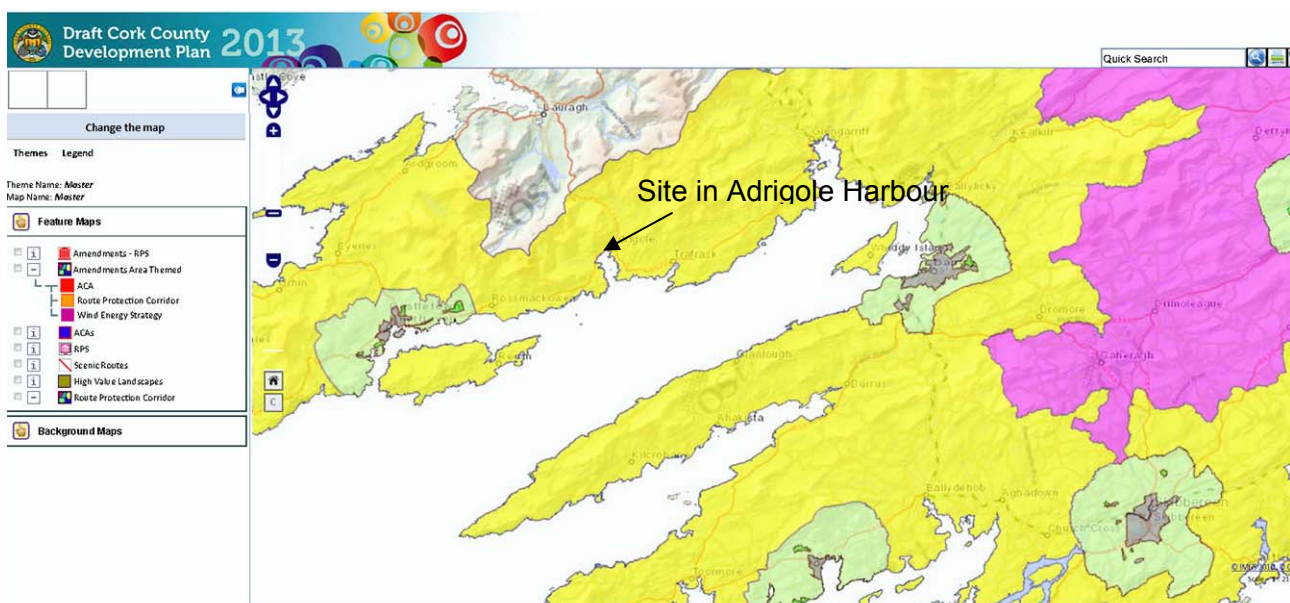
- a) Protect the visual and scenic amenities of County Cork’s built and natural environment.
- b) Landscape issues will be an important factor in all land-use proposals, ensuring that a pro-active view of development is undertaken while maintaining respect for the environment and heritage generally in line with the principle of sustainability.”

As can be seen from figures 17 & 18 the Adrigole Harbour is seen as a High Value Landscape and the R572 is seen as a scenic route. The area is also classed as Tourism and Rural Diversification Area. “These parts of rural and coastal County Cork exhibit characteristics such as evidence of considerable pressure for rural housing in particular higher demand for holiday and second home development. These rural areas are more distant from the major urban areas and the associated pressure from urban generated housing. These areas also have higher housing vacancy rates and evidence of a relatively stable population compared to weaker parts of the County. These areas have higher levels of environmental and landscape sensitivity and a weaker economic structure with significant opportunities for tourism and rural diversification.”





**Figure 17: Scenic Routes (red line) and areas of High Value Landscape (olive)**



**Figure 18: Rural Housing Policy-Tourism and Rural Diversification Area (Yellow)**

### 5.6.2 South Western IRBD Transitional and Coastal Waters Action Programme

This action plan reviewed each of the coastal and transitional waters in the South Western IRBD and outlined the pressures and targets under the WFD. In relation to Adrigole (SW\_170\_500) it states that the Bay is of high water quality status.

## 5.8 Water Quality Status

The WFD water quality status of the Transitional and coastal water body Bantry Bay is classed as High Status.

## 5.9 Man-Made Heritage

National Monuments Service data of recorded National Monuments in the area was acquired (25/10/2014) and plotted (Figure 19). The closest National Monuments were the following:

### 0 to 500m from the proposed site.

#### **CO116-006--Class: Stone circle - five-stone (60m from the site)**

Description: Stands less than 100m from shore, at inner end of Adrigole harbour SE of mouth of Adrigole river. Circle complete; stones other than axial stone in inclined positions. Stones are 0.9m to 1.6m L, 0.15m to 0.5m T and 0.7m to 1.9m H. Internal measurement along main axis, aligned NE-SW, is 2.9m. (Ó Nualláin 1984, 42, no. 83)

The above description is derived from the published 'Archaeological Inventory of County Cork. Volume 1: West Cork' (Dublin: Stationery Office, 1992).

### 500m to 1km from the proposed site.

#### **CO116-005002 & CO116-005001 Class: Metalworking site**

Description: In grounds of Adrigole Ho. at head of Adrigole Harbour. Old furnace (CO116-005002-) shown as part of complex on O.S. 1st ed. map. A single featureless structure survives (6.8m E-W; 4.3m N-S); area strewn with slag and vitrified stone. McCracken (1957, 127) refers to a "large works" here in 17th/18th century.

The above description is derived from the published 'Archaeological Inventory of County Cork. Volume 1: West Cork' (Dublin: Stationery Office, 1992).

#### **CO116-005003- Class: Country house**

Townland: ADRIGOLE. No description

#### **CO116-004001- Class: Graveyard/ CO116-004002- Class: Church** Townland: ADRIGOLE

Description: On S-facing slope overlooking Adrigole Harbour. Rectangular yard with late 19th and early 20th century headstones, chest tombs of Puxley family. No upstanding remains of C of I church indicated in centre of graveyard on OS 6-inch map (1842); described by Lewis (1837, vol. 2, 59) as 'small edifice with low square tower...built 1809'.

The above description is derived from the published 'Archaeological Inventory of County Cork. Volume 1: West Cork' (Dublin: Stationery Office, 1992).

Date of upload/revision: 14 January 2009.





**Figure 19.** National Monuments in the vicinity of the proposed Aquaculture site.



## Section 61 Assessments

### Section 61 of the Fisheries Amendment Act 1997

This act 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 aqua-culture 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

The site under appeal **is** suitable for the intended purpose for the following reasons:

1. The species to be farmed (*Crassostrea gigas*) has been and is currently being grown on the mixed sediment/gravel on the SW border of the site. Based on the existing shellfish farmer’s experience, on the more seaward/downstream site, growth rates are good. However, it would be expected that growth rates would reduce with the greater influence of freshwater in the applicant’s site going upstream due to the increasing freshwater input.
2. The area appears solid under foot and is likely to support trestles and workers. However, access from the north is difficult due to a saltmarsh and mud flat area. Access would need to be from the western side of the site and along the top of the shore due to, the mudflats, existing licenced area and the river.
3. There is sufficient physical space in this area of Adrigole Harbour for the development.
4. The proposed development will not significantly impact on NATURA 2000 sites and is not close to recorded man made heritage in the area.
5. Based on consultation with NPWS it will not impact on the mute swan or harbour seal population in the area.

The proposed site **is not** suitable for the aquaculture development because of the following:

1) Approximately half of the proposed site is across the estuarine element of the Adrigole River with additional trestles on the sandflat to the west of the river. This is not suitable as:

- This is part of a salmonid river (Salmon and Sea trout) and the intensive aquaculture site will potentially obstruct migrating fish species. Salmon are protected under the Habitats Directive as are European eel habitats. As can be seen in IFI (2012) the river is also used by migrating European eels.
- Section 131 of the Fisheries (Consolidation) Act 1959 protects spawning salmon and trout and creates the offence that where any person during the annual close season:
  - wilfully obstructs the passage of salmon or trout or the smolts or fry thereof.
  - or injures or disturbs any salmon or trout, or any spawn, fry or smolts thereof.
  - or injures or disturbs any spawning bed, bank shallow where such spawn of fry or smolts may be,.....

commits an offence with a maximum penalty of 12 months in jail and €635 fine may be imposed.

- Section 171 of the Fisheries (Consolidation) Act 1959 creates the offence of throwing, emptying, permitting or causing to fall onto any waters deleterious matter. Deleterious matter is defined as not only as any substance that is liable to injure fish but is also liable to injure their spawning grounds or the food of any fish or to injure fish in their value as human food or to impair the usefulness of the bed and soil of any waters as spawning grounds or other capacity to produce the food of fish.

In addition to a maximum fine of €1,270 and six months imprisonment by the District Court, the full cost of the damage done and restoration is also chargeable against the offender – Section 10 of the Water Pollution Act 1977 (as amended by Section 7 of the Water Pollution Act 1990).

- Section 173 of the Fisheries Consolidation Act 1959 creates a number of offences which including that where any person:
  - wilfully obstructs the passage of the smolts or fry of salmon, trout, or eels, or
  - injures or disturbs the spawn or fry of salmon, trout or eels, or
  - injures or disturbs any spawning bed, bank or shallow where the spawn or fry of salmon or trout or eels

Commits an offence as well as a penalty of €635 there is an additional provision that any engine device used in the commission of the offence shall as a statutory consequence of conviction stand forfeit.

- Communication from Inland Fisheries Ireland in relation to the site stated that “the proposed aquaculture site could possibly have a significant impact on fish migration. On the precautionary principle it is probably better to select another site for the proposed operation”.

- 2) Sizable debris from the forestry upstream can be seen across the river portion of the site. In times of flood this debris may pose a risk to the site.
- 3) The river is approximately 100m wide with numerous channels (Plates 3 & 6) and despite its catchment size contains a substantial quantity of freshwater, at least as was seen during the site visit. This could lead to sub optimal growth/ mortalities of *Crassostrea gigas* due to lower salinities particularly in the more upstream portion of the site where the freshwater influence is greater.
- 4) The Site Characterisation Report indicates that faecal contamination is a problem in the area and highlights the areas in the Adrigole River catchment as having inadequate percolation as seen in Figures 10 & 11. The EPA in assessing the Marine Institute report (MI, 2013) stated that in relation to Adrigole “the study found regular exceedances of guide values of *E. coli* in shellfish flesh during August and November, suggesting seasonal influences.” The extent of this problem is difficult to define in the absence of monitoring data. However, it would be seen as a reason as to why this site may not be suitable.

## 6.2 Existing/Potential beneficial Uses

### Tourism/Recreation/Leisure

The proposed aquaculture site is located beside the R572 which is part of the Wild Atlantic Way. It is also stated in the 2009 Cork County Development Plan that “It is important to protect the character and quality of those particular stretches of scenic routes that have special views and prospects particularly those associated with Scenic Landscapes.” This area is classed as a “scenic route” and a “high value landscape.” The full extent of the proposed site will be seen from the road at low tide. It would be difficult to see how screening or planting as suggested in the 2009 CCDP could be used in this area to minimise the visual impact, as the places to stop or picnic are beside the road, which is directly beside the sea. This gives little / no room for screening, which in itself will obstruct the view of Adrigole Harbour.

In the “recommendation to grant an aquaculture licence” i.e. one of the two licences that were applied for the “ Department’s Engineering Division considers that there is potential for the proposed sites N1 and N2, taken in conjunction with existing renewal applications to have a significant cumulative negative visual impact on the very high value scenic landscape. It further recommended that only one site N2 be licenced to mitigate this impact”.

In addition reviewed documentation “the Harbour Master expressed concerns regarding the proposed development, outlining that it could potentially block off access to an existing /pier/slipway” (It is assumed that this is referring to the N1 site) “and possibly impede further tourism objectives in the region such as kayaking, canoeing and dingy sailing”

The proposed aquaculture site may impact negatively, but not significantly, on the scenic landscape.



## Fishing/ Harvesting

The proposed site is reportedly used by several families within the Bay for recreational and commercial shellfish harvesting. The edible cockle was found to be numerous on site. The placing of an aquaculture site in this area would reduce the area available to shellfish harvesting.

The proposed aquaculture site will impact on harvesting users of the area.

## 6.3 Statutory Status

As already stated there is potential for “significant cumulative negative visual impact on the very high value scenic landscape” at this site which resulted in a reduction in the number of sites to be licenced to John Crowley.

The proposed aquaculture site has the potential to *impact* the statutory status of the area:

## 6.4 Economic Effects

The scale of the proposed aquaculture is moderate and would only be expected to benefit the applicant and several individuals who would work on the farm and not the community at large. The potential negative economic impacts are very difficult to determine e.g. the costs associated with the negative visual impact to the local community, loss of harvesting areas for shellfish gathering and areas for sailing etc.. Therefore there would be both positive and negative impacts but it would be difficult to define the exact negative financial implications should the site proceed.

The proposed site is likely to have a **non-significant positive effect and an unquantifiable negative impact** on the local economy of the area.

## 6.5 Ecological Effects

### 6.5.1 Designated Sites

Potential impacts of the proposed aquaculture site on the qualifying interests of nearby NATURA 2000 sites

NATURA 2000 site	Species or Habitat of Qualifying Interest (Annex habitat or species within the Habitats Directives)	Potential impacts
Caha Mountains SAC [000093]	<p><i>Objective: To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected: The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network. The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.</i></p> <p><i>Geomalacus maculosus [1024]</i>  <i>Trichomanes speciosum [1421]</i>  <i>Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto - Nanojuncetea [3130]</i>  <i>Natural dystrophic lakes and ponds [3160]</i>  <i>Northern Atlantic wet heaths with Erica tetralix [4010]</i>  <i>Alpine and Boreal heaths [4060]</i>  <i>Blanket bogs (* if active only) [7130]</i>  <i>Siliceous rocky slopes with chasmophytic vegetation [7130]</i></p>	<p>This site is 3 km from the proposed aquaculture site.</p> <p>The conservation objectives of this site are purely terrestrial and freshwater while the proposed site is in the intertidal environment. The conservation objectives do not include migratory fish species. Terrestrial and freshwater habitats and species will not be impacted upon by this development.</p> <p>A screening matrix was carried out by the Marine Institute on aquaculture sites within Bantry Bay. It was stated that “There will be no direct or indirect effects on the adjacent Natura 2000 site”. “Furthermore any impacts on habitats are likely to be local and not extend beyond the footprint of the activities. Therefore they are not likely to impact on any of the adjacent SAC’s”</p> <p><b>No significant impact is predicted on designated sites.</b></p>

It is likely that there will be a **no significant impact** on the qualifying interests of the above NATURA 2000 sites. However, although Atlantic salmon are not listed as a qualifying interest of nearby Natura 2000 sites and it should be noted that Atlantic salmon are an Annex species to the Habitats Directive and the site “**could possibly have a significant impact on fish migration**” (Inland Fisheries Ireland comm.).

## 6.5.2 Flora and Fauna

### Possible impacts of the proposed aquaculture site on estuarine and marine biota

Source of Impact	Biota Impacted	Nature Of Impact
<b>Obstruction</b>	Migratory Fish Species including Atlantic salmon, sea trout and European eels.	<p>The proposed location of the aquaculture site in in the estuarine element of the Adrigole River which is classes as a sea trout and Atlantic salmon river.</p> <p>However, under section 6c of the departmental file it was stated that “no significant issues arose regarding wild fisheries” However, this is in response to communication from DAHG and not Inland Fisheries Ireland. Additional consultation was sought from IFI and communication from the Senior Fisheries Environmental Officer stated that “the proposed aquaculture site at the mouth of the river could possibly have a significant impact on fish migration. On the precautionary principle it is probably better to select another site for the proposed operation”.</p> <p><b>Potential for Significant Impact</b></p>
<b>Deposition/ accumulation of organic matter</b>	Minor	<p>Pseudofaeces may be released from the oysters but will cause minimal localised impact in the vicinity of the trestles if they are not removed by the current. However, given the fact that many of the trestles are in the flow of a river accumulation of any deleterious biological matter would not be expected across the site.</p> <p>No significant impact is foreseen</p>
<b>Altered water chemistry &amp; reductions in nutrients</b>	Phytoplankton	<p>Positive impact through the filter feeding.</p> <p>No significant impact is foreseen</p>
<b>Disturbance</b>	Birds/Otters/ Seals/ Cetaceans	<p>The site may cause disturbance to local wildlife species including seals, otters and birds. However, based on commutation from NPWS no significant impact is foreseen.</p>

The potential impact on migratory fish species can be seen in Figure 21. The site layout as provided in the aquaculture site technical drawing has been overlaid the actual site outline and on the approximate river layout at low tide. The placing of a development of this nature in the estuarine element of the Adrigole River would potentially impact migratory fish species, particularly at low tide due to the presence of 310m of successive obstacles as confirmed by Inland Fisheries Ireland

The OSI aerial imagery back to 1995 was consulted. The river has been in this position in aerial/satellite imagery. However, in the historic 6” mapping it took a more direct route across the site and out of the harbour (as illustrated in the Cronin Millar Consulting Engineer drawings). The sandflat area now consists of mixed sediment and gravels. It is therefore considered that the route that the Adrigole River takes through the intertidal area is a relatively stable route and has not been subject to significant movement in recent years. As a result it would be seen that any impact on this river due to the presence of trestles would be seen as a long term impact.





**Figure 21.** The site layout as provided in the technical drawing has been overlaid the actual site outline and on the approximate river layout at low tide.

## 6.6 General Environmental effects

An EIA screening assessment was sent separately from the ministerial file. It was for sites T5/573 NI - N2 and stated that the source of seed would be from a “disease free Irish hatchery” and production would be as follows: Year 1 - 0 Tonnes, Year 2 - 20 Tonnes, Year 3 - 30 Tonnes, Year 4 - 40 Tonnes. “The Screening Assessment found that the proposed cultivation will have no significant effects on the qualifying interests of the Natura 2000 sites. In relation to cumulative impacts it stated that “the impact will be on the benthos and this will be localised and limited to the area directly beneath the trestles. The overall area involved is considered to be small. There will be no significant impact on other sensitive receptors e.g. air, water, cultural heritage, visual amenity”

In relation to whether the installation, operation or decommissioning of the project involve actions which will cause physical changes in the locality (topography, land use, changes in waterbodies, it was stated that “the development can be considered as minor and reversible as all structures can be removed.” In relation to inherent social changes it was stated that “the impact will be locally beneficial but not significant”

In relation to important, high quality or scarce resources which could be affected by the project including groundwater resources, surface waters, fisheries and tourism. It was acknowledged that there is fishing, tourism and marine leisure in but “the impact will not be significant.” In addition “given the scale of the activity it is considered that the structures will not be visually intrusive”. “Sites will be suitably navigationally marked and won't interfere with other legitimate users of the foreshore.” “Shellfish production at this site will not lead to deterioration in microbiological quality of the waters in Adrigole Harbour.”

In conclusion it stated that **“on the basis of the above the consensus of the screening group is that environmental effects from the proposed aquaculture is not to have significant effects on the environment and that an Environmental Impact Statement is not required for this project”**

### 6.6.1 Potential impacts

Having assessed the potential environmental impacts outlined above it is likely that the proposed site has the potential for significant impact on the environment, namely migrating Atlantic salmon.

## 6.7 Effect on Man-Made Heritage

The proposed aquaculture site will not significantly impact on known man-made heritage of the area



## 7 Section 61 Assessment Conclusions

A technical review was carried out by Altamar Ltd. in relation to an aquaculture licence appeal for the awarding of a licence to the John Crowley under Section 61 of the Fisheries (Amendment) Act 1997. The suitability of the place and waters at or in which the aquaculture site is proposed was assessed.

It is concluded that the proposed site, as outlined in the documentation is likely to negatively impact on the visual landscape, water based tourism and harvesting of shellfish in the harbour. But, these impacts were deemed not to be significant. However, as stated by Inland Fisheries Ireland the aquaculture site could possibly have a significant impact on fish migration and in particular Atlantic salmon, a species protected under the Habitats Directive.

Without extensive surveys and monitoring being carried out, the extent at which the site suffers from faecal contamination is unclear. However, areas within the catchment are poorly drained and the river is at risk to faecal contamination. As part of the 3 year Marine Institute national survey of designated shellfish waters (MI, 2013), on one occasion, levels of *E. coli* contamination in shellfish from Adrigole were the joint highest levels seen Nationally across the survey, which highlights there is a problem with faecal contamination in the area. As a result, the contamination of shellfish within this site from faecal contamination is a risk, but without understanding the drivers and seasonal impacts in addition to substantial monitoring effort, the risk to human health would be difficult to define.

## 8 Recommendations with Reasons and Considerations

Having carried out an inspection of the proposed site and in accordance with Sections 59 & 61 of the Fisheries (Amendment) Act 1997, it is recommend **not to grant the licence for the site**.

Based on consultations with IFI the proposed site **could possibly have a significant impact** on fish migration and in particular Atlantic salmon, which are designated under the Habitats Directive.

The proposed site poses **a minor but not significant impact** on:

- 1) Visual Landscape.
- 2) Existing recreational and commercial shellfish harvesting
- 3) Water based activities

## 9 Draft Determination

**It is recommended not to grant a licence for this site.**



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