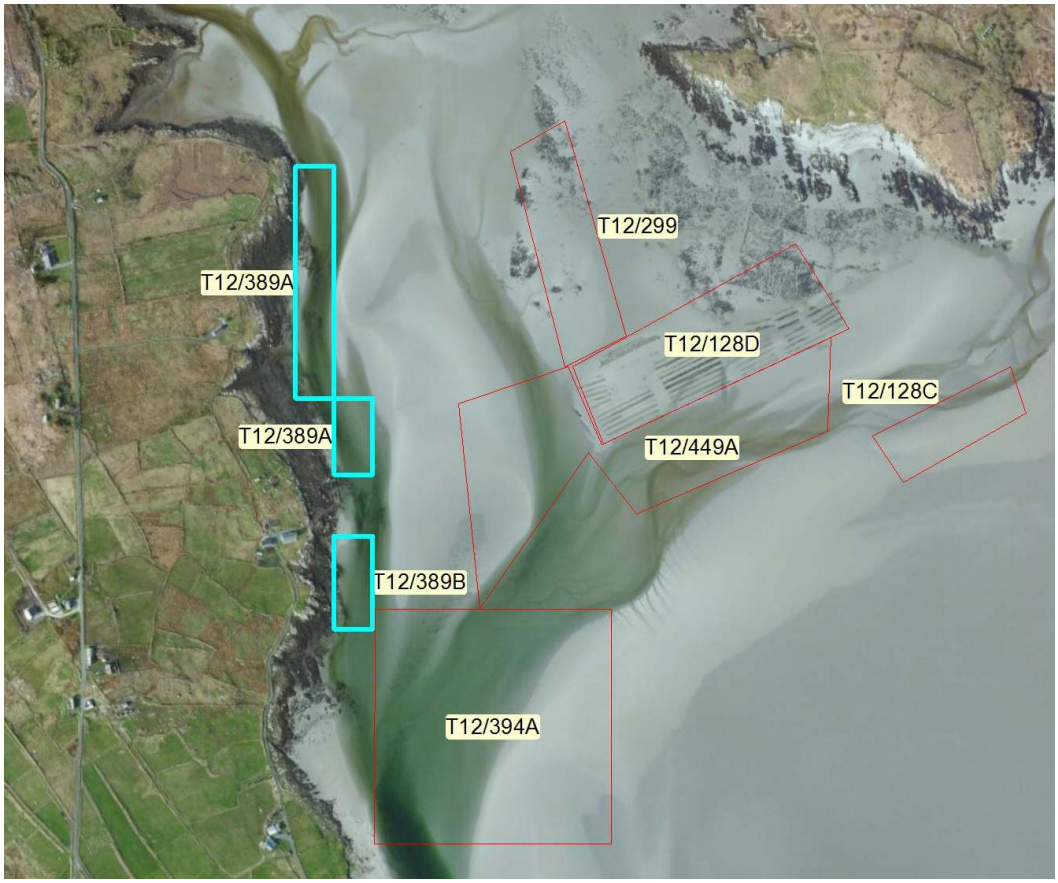
Technical Advisors Report

AP6/2013 Licence Appeal Review



Prepared for the Aquaculture Licence Appeals Board

by

ALTEMAR
Marine & Environmental Consultancy

February 2014

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DOCUMENT CONTROL SHEET

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Client:	Aquaculture Licence Appeals Board
Project Title:	AP6/2013 Licence Appeal Review
Document Title:	Technical Advisors Report
Document No:	ALAB/AP6/2013

Revision	Status	Prepared by	Reviewed by	Date
00	First draft	Bryan Deegan	S Corcoran	13/02/2014
01	Second draft	Bryan Deegan	S Corcoran	14/02/2014
02				
03				

Contents

Executive Summary

Description:	Application to cultivate Pacific oysters using trestles and bags on two sites on the foreshore in Trawenagh Bay, Co. Donegal
Licence Application	Site T12/389
Appeal Reference	AP6/2013
Department Reference Number	T12/389
Applicant	David Gallagher
Minister Decision	Granted Licence AQ 2nd October 2013
Appeal	
Type of Appeal	Granting of licence to David Gallagher
Appellant(s)	Edward Gallagher, shellfish farmer on adjacent sites within Trawenagh Bay
Observers	None
Technical Advisor	Altemar, Marine and Environmental Consultants www.altemar.ie
Site Inspection	Carried out on the 4th February 2014 by Bryan Deegan

1. Appeals Details & Observer Comments/Submissions

Date Appeal Received: 4th November 2013

Location of Site Appealed: Trawenagh Bay, Co. Donegal

1.1 Appeal Timeframe

A public announcement with details of the Aquaculture and Foreshore application grant decision was published in the Donegal Democrat (page 66) on October 10th 2013.

Objection letters were sent by the following appellants within the one month timeframe:
4th November 2014 (Received by the Aquaculture Licence Appeals Board)- Edward Gallagher

1.2 Name of Appellants

Edward Gallagher, Irish Premier Oysters, T/A Sliogeisc na Rosann, Traigheanna Bay, Drimlaughdruid, Lettermacaward, Donegal Town, Co. Donegal.

Telephone: 074-9522777
Mobile Tel: 086-6022288
Email: info@ipo.ie

Appeal No. AP6/2013

1.3 Name of Observers

No observations outside of appellants and applicant response

1.4 Grounds for Appeal

Grounds for appeal as outlined by Edward Gallagher:

1. “My Family has been growing oysters in Trawenagh Bay since 1987. Our family have resided there for generations. We are an established firm and currently employ 12 people. Indirectly, we support a lot of small indigenous businesses. We buy the majority of our materials locally and all our employees are native to the area.

2. I am very familiar with the area that the application relates to. As a trainee fish farmer, I worked on a site close to the application site. The sand there is very unstable, the area has shifting sand and in places, it is muddy. This environment is difficult to work with and is not conducive to growing oysters. In close proximity to the site, there is a channel, this channel fills very quickly and for an inexperienced person, can be very dangerous as the channel can cut a person off from the mainland.

3. In that area, 2 oyster farmers have already tried unsuccessfully to grow oysters there, it is unprofitable. The oysters take approximately 25% longer to grow there than on Dungloe Bay. The last oyster farmer that had a licence in the area, I ended up buying all of his half-grown oysters from him as he had discovered to his detriment that oysters do not mature on the site, the site is not a growing site, it is a site that is used to fatten oysters when they have fully matured. The licence has been given to cultivate oysters seed, yet the environment is not conducive to growing oyster seed. The licence is not been given for any other stage in the oyster growing process.

4. The licence is being granted to cultivate oysters, Mr. David Gallagher already has a licence in Dungloe Bay which he is using to grow oysters. Oysters from his site in Dungloe Bay will grow at a much faster rate than any attempt to grow oysters on Trawenagh Bay. There are approximately 200 hectares in Dungloe Bay on which licences could be applied for. From a production perspective, the only reason to use the site in Trawenagh is to fatten oysters.

5. Presently, Mr. David Gallagher does not have the resources at his disposal to finance a project of this size in Trawenagh. For years, French Oyster Growers have tried to gain access to Trawenagh Bay as it has a reputation across the world for quality oysters. I have spent 20 years marketing Trawenagh Bay oysters, and our company is now the largest exporter of Irish Oysters to Asia. Our turnover in Asia this year alone will be over €1,000,000.00.

6. I am of the opinion that an application has been made for a licence with the sole intention of transferring that licence onto a European oyster company. Eg. A one hectare licence in France can cost up to €150,000.00. Mr. Gallagher will receive his licence for less than €1,000.00. He can transfer / sell or rent the licence and make approximately €79,000.00 profit.

7. Should a European Company have the licence for Trawenagh Bay, from experience I have found that they leave very little money in Ireland, all of the raw materials are purchased abroad, they bring in their own employees and do not employ local people. The local economy does not necessarily enjoy the economic advantage that they would if the licence was kept by a local business.

8. To guarantee the long term viability of Trawenagh Bay, I request that an addendum be added to the licence that it cannot be transferred/ sold or rented for the period of the licence or failing that, that the board makes the right decision and overturns the granting of the above licence, thus safeguarding the future of oyster growing in Trawenagh Bay.

9. As the licence has been granted for the cultivation of oysters, I think it is imperative that the use of the licence is monitored. I am incredulous that Mr. David Gallagher, with his experience

of oyster growing, knowledge of the local area and knowledge of the history of growing oysters on Trawenagh Bay would apply for a licence to cultivate oysters in that particular area."

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*"

In a letter dated 15th December 2013, and received by ALAB on the 18th December 2013, Mr David Gallagher, responded to the grounds for appeal, outlined above. In his letter he stated that "Most of the points made by the appellant are irrelevant to my application for the licence to grow oysters in Trawenagh Bay. Despite what Mr Edward Gallagher states in his letter, I believe this site will be suitable for growing oysters from seed. I have stated at least twice previously that I have no intention of selling, leasing or renting this site to any European Company or any other company of any nationality.

Should the Department of the Marine wish to monitor the use of the licence, I have no problem with that, indeed I would welcome it. Likewise, should the Department of the Marine wish to add a clause to the licence stating that it cannot be sold, leased or rented for the period of the licence, I would be perfectly happy with that too."

2. Consideration of Non-Substantive Issues

Each issue raised by the appellant 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. Application for Aquaculture and Foreshore licence for T12/389
2. Aquaculture Licence, Foreshore Licence for site T12/389A including maps, drawings.
3. Aquaculture Licence, Foreshore Licence for site T12/389B including maps, drawings.
4. Environmental Impact Assessment (EIA) Pre-Screening Document
5. Submission to the Minister in relation to requirement for Environmental Impact Statement
6. Ministerial Determination in relation to requirement for Environmental Impact Statement
7. Letter of objection
8. Response of Engineering Division to the objection
9. Response of Applicant to objection.
10. Submission to Minister for Aquaculture Licence.
11. Submission to Minister for Foreshore Licence.
12. Notification to applicant of Minister's decision.
13. Notification to ALAE of Minister's decision.
14. Publication of Ministerial decision in Donegal Democrat.
15. Map of Licensed sites
16. Map of application sites.

(For copies of the above please see the Departmental File)

5. Context of the Area

5.1 Physical descriptions

Trawenagh Bay is a large marine inlet located between Dungloe and Glenties in Co. Donegal. It has a narrow opening to Gweebarra Bay which is 400m across, from Dooey Point to Murraghmullan. Trawenagh Bay is a sheltered, west-facing bay characterised by a large area of inter-tidal sand flats. In general, the bay is shallow, but it deepens closest to the mouth at Murraghmullen. The entire bay 8.04 km^2 is a designated shellfish area.

As outlined in the Designated Shellfish Waters site Characterisation Report, “two small rivers, the Owenaleck and the Owenamarve, and a number of minor streams discharge into the Bay. The contributing freshwater catchment of the shellfish area is 68.9 km^2 in area. The main population centre is the town of Dungloe with a population of 1,068. Other settlements in the catchment are very small and scattered. The overall population within the catchment is approximately 8,368.” The site is located in temperate climate with 258 rain days/year (Glenties Met Station) and on average over 1500 mm of rain per annum.

Farming in the region is mainly based on sheep and cattle rearing and is generally carried out on a small and part time basis. The estimated numbers of sheep and cattle in the catchment is c. 15,652 and 4,637 respectively (CSO, 2000 Survey). The proposed oyster farm is located in the north west corner of Trawenagh Bay. Dungloe is located 5km to the north east of the site.

5.2 Resource Users

Aquaculture– According to the data received from the Department (12/02/2014) (Table 1) a total 80.67 Ha, including 38.81 at "Application" status is designated for shellfish aquaculture in Trawenagh Bay (Figure 1). No finfish aquaculture is carried out in the Bay.

Currently in the Bay there are 5 operators comprising of a total of 10 licenced sites for oysters (Table 1). In addition, there are 7 licences at application stage. Two licences T12/380A & T12/128A also have "Clams" lists as a second species. Two of the application stage sites (T12/389A (2 Hectares) and T12/239B (0.6Hectares)) by the applicant David Gallagher form the grounds for the appeal and this Technical Report. The proposed sites in question are located in the north west side of Trawenagh Bay (Figures 1 & 2).

In the North Western IRBD Transitional and Coastal Waters Action Programme it was stated that Gigas Oyster production in the Bay in in 2007 was 163 tonnes with a value of €332,300.

Table 1: Aquaculture licence holders and applicants in Trawenagh Bay.

File No.	Species	Species Two	Culture_Type	Licence No.	Licence_Date	Lapse_Date	Site_Status	Licencee_Name	Forename	Area (ha)
T12/217	Oysters		Intensive	163	13/09/2005	12/09/2015	Licensed	Brennan	Martin	5.39
T12/380A	Oysters	Clams	Intensive	254/488			Application	Brennan	Martin	4.39
T12/337A	Oysters		Intensive		18/03/2004	18/03/2014	Licensed	Brennan	Kevin	2.10
T12/389B	Oysters		Extensive				Application	Gallagher	David	0.60
T12/389A	Oysters		Extensive				Application	Gallagher	David	2.00
T12/377A	Oysters		Intensive		26/01/2007	26/01/2017	Licensed	Mc Cahill	Eamonn	7.78
T12/208	Oysters		Intensive	490	28/10/1999	21/11/2005	Licensed	McCahill	Eamonn	6.50
T12/412A	Oysters		Extensive				Application	McCahill	Eaamon	10.30
T12/299	Oysters		Intensive	122	06/08/1999	06/08/2009	Licensed	O'Donnell	Charlie	2.40
T12/128A	Oysters	Clams	Intensive	139/478	12/08/1999	08/08/2005	Licensed	Sliogeisc na Rosann	James Gallagher	9.54
T12/128	Oysters		Intensive	253	01/03/2000	01/03/2010	Licensed	Sliogeisc na Rosann	James Gallagher	2.25
T12/128C	Oysters		Intensive	253	01/03/2000	01/03/2010	Licensed	Sliogeisc na Rosann	James Gallagher	1.29
T12/128D	Oysters		Intensive	253	01/03/2000	01/03/2010	Licensed	Sliogeisc na Rosann	James Gallagher	4.06
T12/128E	Oysters		Intensive	253	01/03/2000	01/03/2010	Licensed	Sliogeisc na Rosann	James Gallagher	0.55
T12/449A	Oysters		Intensive				Application	Sliogeisc Na Rossan	Edward Gallagher	6.37
T12/448A	Oysters		Intensive				Application	Sliogeisc Na Rossan	Edward Gallagher	5.75
T12/394A	Oysters		Intensive				Application	Trabay Ltd	Pascal Boutrais	9.40

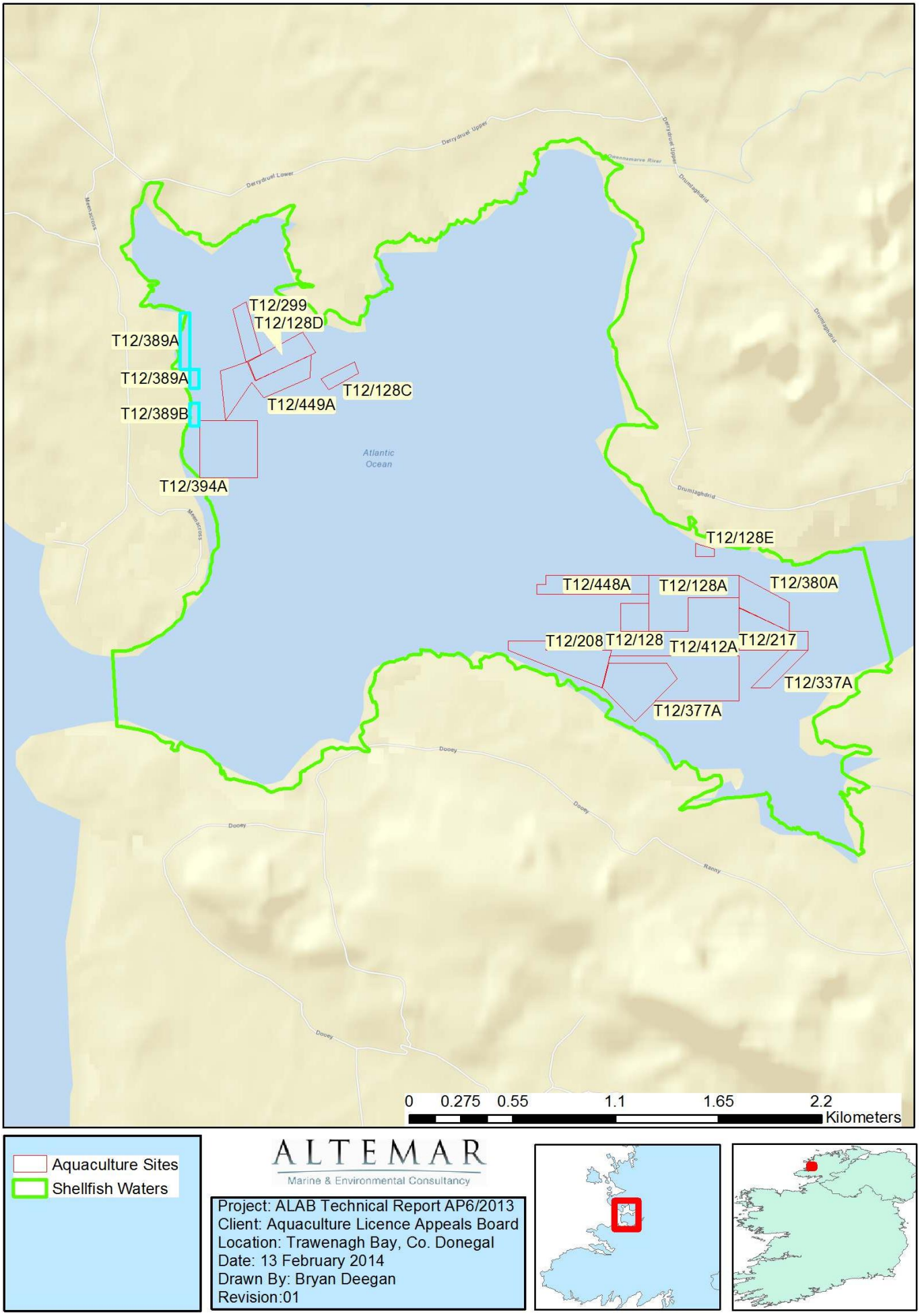

Figure 1: Designated Shellfish Waters and shellfish aquaculture sites in Trawenagh Bay, Co. Donegal.

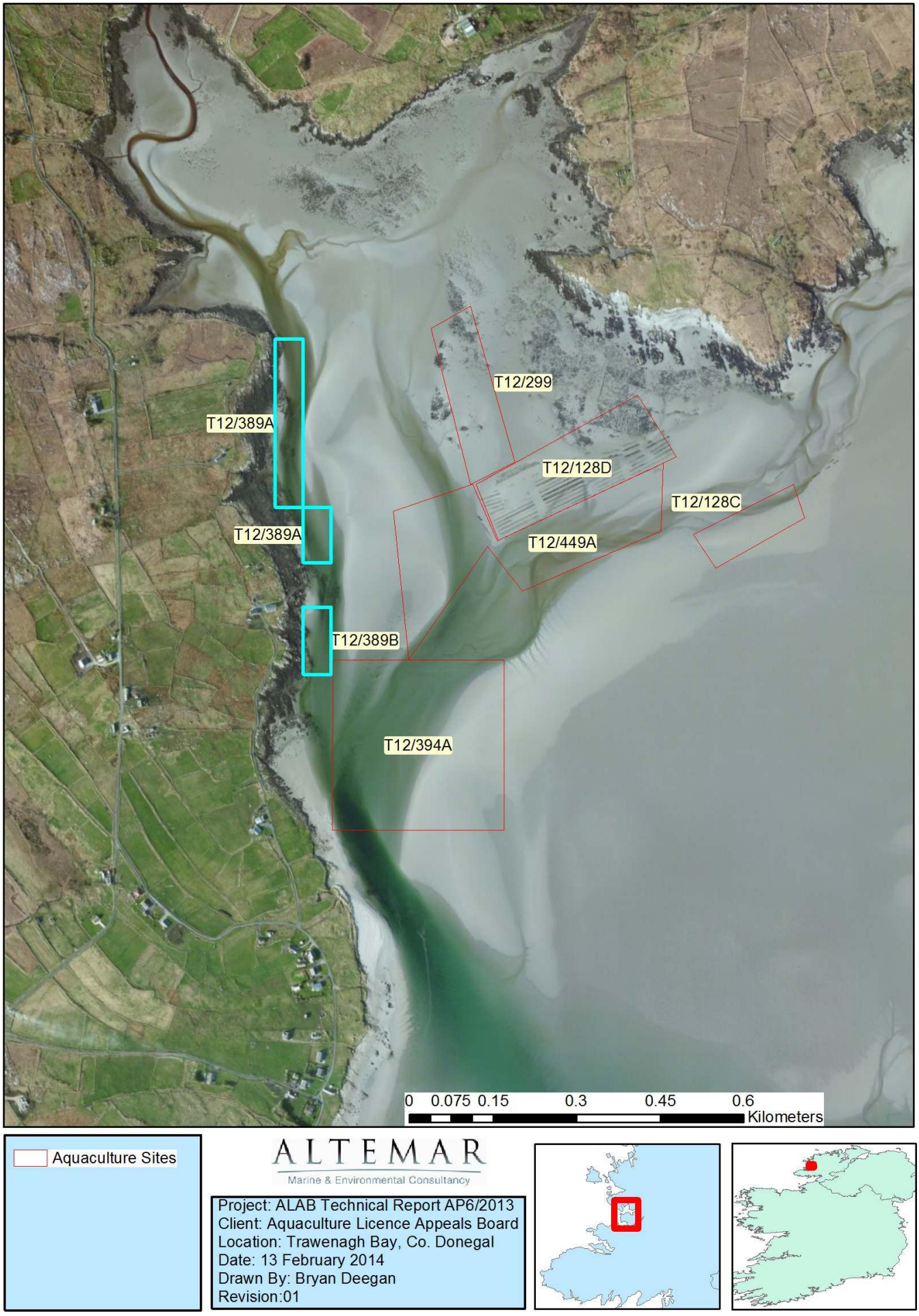

Figure 2: Aquaculture Sites in the NW corner of Trawenagh Bay (David Gallagher sites outlined in blue)

Angling and Inshore Fishing Activity –

According to Inland Fisheries Ireland in its assessment of shore angling in West Donegal (http://www.fishinginireland.info/sea/north/westdonegal.htm) "Trawenagh Bay is an exceptionally good bait gathering area, and as the tide recedes, acres of lugworm beds are exposed. The lugworms on the channel banks are large and black. Clam and white ragworm are also quite numerous. Towards the lower reaches of the bay, around Trawenagh Point, sandeel can be dug in numbers, from the sand during the summer. At the south eastern entrance to Trawenagh lies Dooey Point spinning in the channel produces mackerel and seatrout on a flooding tide. Bottom fished baits will turn up flounder which, although not very big can be very numerous."

The Owenamarve River is a salmon river and it runs through Trawenagh Bay and forms part of the Rosses Fishery. The Rosses Fishery is closed to salmon (and sea trout over 40cm) angling for 2014. Spring salmon start to enter the river in March and it gets a good run of grilse from mid-June onwards. There is a good run of larger sea trout in May with fish in the 2 – 4lb bracket. The summer run peaks in mid-July.

The proposed aquaculture site is located on the estuarine element of the Owenalek River within Trawenagh Bay. This river forms part of The Alec Mor system which comprises the Loughs Aleck More and Aleck Beg and the Owenalek River. This is predominantly a Sea Trout system with Aleck More being the most fished (http://www.fishinginireland.info/salmon/north/rosses.htm).

Tourism and Leisure Uses –

No specific tourism based activity centres were found in or in close proximity to Trawenagh Bay. Leisure based activities in the Bay appear to be on an *ad hoc* basis, primarily based around angling and canoeing. The nearest hotels are found in Glenties and Dungloe, with B&B and self catering accommodation found slightly closer to Trawenagh Bay. The closet tourist attraction to the Bay is the Blue Flag Beach at Narin, 6km to the south west, on the far side of the Gweebarra River. The closest sea angling charter vessels were found in Burtonport, 10km to the north of the Bay, while the closest activity centre was the Malinmore Adventure Centre 35 km to the SW.

The N56, which is on the eastern boundary of Trawenagh Bay forms part of the The Wild Atlantic Way. The Wild Atlantic Way is a tourism based driving route that stretches for 1,300 km along Ireland's western seaboard from Malin head in Co. Donegal to Kinsale in Co. Cork. The new tourism initiative aims to create a corridor along the Atlantic coast which will link destinations and attractions together, creating a shopping isle of experiences and opening up access and possibilities in the visitor's mind.

The expansive nature of the sandflats within Trawenagh Bay, with the many channels and sub channels would give the impression that it is particularly dangerous bay, with fast running tides, and areas being easily cut off by the incoming tide. However, the area within the intertidal to the west of the proposed site is used as walk route for some local residents.

Agricultural Activity

Approximately 40% of the freshwater catchment area is farmed land. However, estimates of livestock density and fertiliser usage are lower than the national averages (Shellfish Pollution Reduction Programme, Characterisation Report Number 24). “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 the catchment. However, the prevalence of peat and other wet soils in the catchment could result in runoff from agricultural land. 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.”

Harvesting of seaweed was noted as an activity within the bay during fieldwork. It was noted by a farmer (Packie McHugh *pers coms*) that the rocky intertidal immediately to the west of the proposed site is harvested for *Ascophyllum nodosum*. This is supported by Hession (1998) where at “Meenacross where the *A. nodosum* extends for approximately 4 km. 100 t of *A. nodosum* was harvested in the area in 1996, where there is an estimated potential of 250 t per annum. There is no pier in the area and road access to the biomass is not very good. There are 5 harvesters active locally.”

5.3 Environmental Data

5.3.1 Site Location

As instructed, this Technical Report was to focus on 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 4th February 2014. A walk over assessment of the site was carried out.

The satellite imagery of Trawenagh Bay, seen in Figure 3, was taken at low tide in March 2012. The proposed sites of David Gallagher (T12/389A & T12/389B) are outlined. The walkover assessment covered both sites in addition to potential access routes to the west of the proposed sites. On the 4th February the site was visited at low spring tide. It is felt that the water levels were slightly lower on the 4th February 2014 than is seen in the satellite imagery, thus more intertidal area is exposed than is seen on the imagery. As can be seen from Plates 1-4 significant intertidal areas are exposed at low water to the west of the river channel. During the walkover assessment a salinity measurement of the water flowing through the proposed site was taken. It was found to be 7.5ppt, well below the ideal salinity levels for oyster cultivation. The rainfall in preceding weeks was extremely high which would have the impact of lowering the salinity, due to the volume of freshwater coming into the Bay from the Owenalek River.

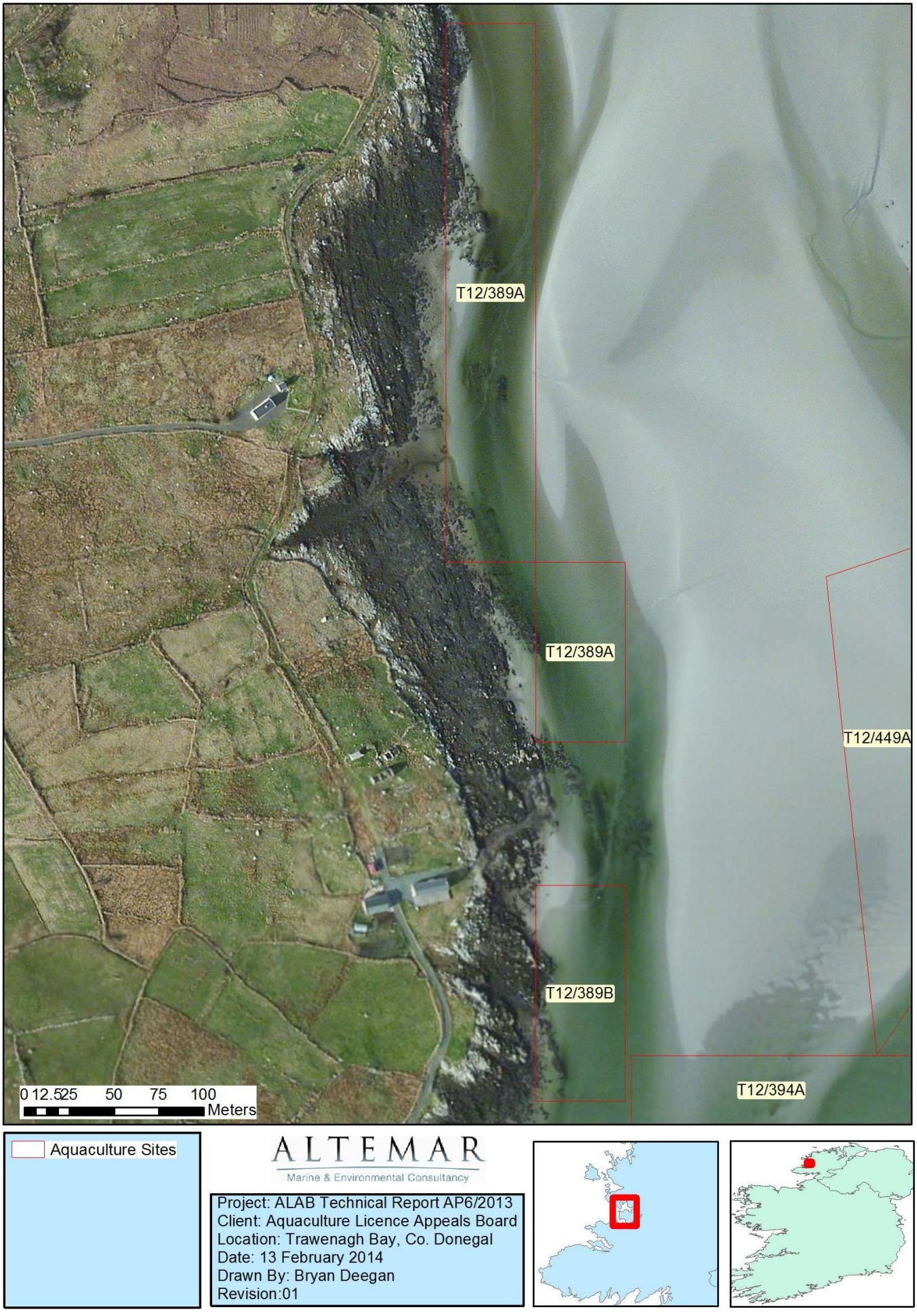

Figure 3: Location of proposed sites overlaid on satellite imagery.

Plate 1. Northern Limit of T12/349A

Plate 2. Mid site T12/349A

Plate 3. Southern limit of T12/349A

Plate 4. T12/349B

5.3.2 Water Quality

Marine Institute Results

"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. For this designated area there is 1 water sample taken in 2004 and 1 biota sample taken in 2008 available. The shellfish mandatory and guideline values were not breached in either of these samples (Shellfish Pollution Reduction Programme report for the Trawenagh Bay). No elevated levels of "dangerous substances" were found in biota (mussel or oyster), water or sediment sample analysed by the Marine Institute (MEHS, 2011).

Faecal coliform biota results were also available from the Marine Institute at all shellfish areas from November 2008, February 2009, May 2009 and August 2009. The shellfish guideline value for faecal coliforms in biota was not breached in any of these samples (Shellfish Pollution Reduction Programme report for the Trawenagh Bay)

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. However, there were no data available from

this programme specifically for the designated shellfish area. The two closest sites were Gweebarra Estuary and Gweebarra Bay. Both of these sites were classed as “unpolluted” (EPA, 2012). Both summer and winter dissolved inorganic nitrogen and molybdate reactive phosphorus levels in these areas were the lowest levels on the reference scales i.e. less than 25 mg/l and 20ug/l respectively. BOD levels in the Gweebarra Estuary (2-4mg/l) were slightly higher than the values seen in Gweebarra Bay (0-2 mg/l).

WFD Monitoring Programme

The WFD status of the coastal water body IE_NW_130_0000 “Trawena Bay” within which the shellfish area is situated is classes as ‘*moderate*’. The Owenamarve River which discharges into the designated area is ‘poor’. The Owenaleck River, the estuarine element of which also flows through the Aquaculture site in question, is classed as ‘good’.

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 areas is classified as Class A meaning that shellfish may be collected for direct human consumption and meet the health standards for live bivalve molluscs laid down in the EC Regulation on food safety (Regulation (EC) No 853/2004). Therefore, there is no indication of faecal contamination in the area.

Bathing Water Quality

Bathing Water quality is not monitored by the EPA within Trawenagh Bay. The nearest location where bathing water quality is monitored is Naran, approximately 9km to the south west. According to EPA data Naran achieved good water quality status in 2012 and complied with the EU guide and mandatory values. Naran had good water quality status for the previous nine years.

5.3.3 Benthic Habitats

Trawenagh Bay is not a Special Areas of Conservation, Special Protection Area, Natural Heritage Area, a proposed Natural Heritage Area or RAMSAR site. As a result limited data on benthic habitats is available. The site has not been subject to the NPWS or Marine Institute habitat mapping programmes. However, an evaluation of the benthic habitats of the Bay was carried out during the BioMar survey in 1995, in the vicinity of the proposed aquaculture site.

In this survey the following was noted:

1) Dive number: 950630/01 Date: 30 June 1995

“Site Description: Co. Donegal, between Dunglow and Glenties. Trawenagh Bay is a large marine

inlet with a narrow opening to Gweebarra Bay and has extensive areas of sand and further inland what appear to be mud flats. Oyster cultivation using trestles is carried on. The transect was laid out near the mouth and finished at low water at the mouth on the north shore. The transect was set up on relatively firm sand but towards the south there were large areas of very soft sand thrown into hummocks and water filled hollows ca. 50 cm deep. This looked like a current swept area. The transect changed direction just below station 2. Fauna appeared quite poor, of polychaetes and *Angulus tenuis*. *Arenicola* occurred very sparsely (less than 1 per m square). No paired bivalve shells were seen.

2) Subsite: Drift line, talitrid zone. details

Subsite Description: Fine sand, scattered patches of drift algae. No black layer. Talitrids common but very small. Larger talitrids were present at an apparently older drift line further up the shore. Collections were made from both drift lines.

3) Subsite: Midshore sand flat. details

Subsite Description: Sand coarser than station 3 with some shell. Surface dry with water at spade depth. Black layer at ca. 7 cm. No holes or casts. Fauna of polychaetes (including *Arenicola), Angulus* and *Haustorius*. Station 2 on lower edge of flat sandy area which was somewhat steeper than the flat rippled area below.

4) Subsite: Lower shore, sand flat. details

Subsite Description: Fine sand, gently sloping, with ripple marks. No mounds or casts, no black layer. Sand jelly-like when walked on. Fauna of polychaete worms and *Angulus*. At water's edge *Crangon* and *Carcinus maenas."*

5.3.4 Biotoxicology

Biotoxin monitoring is carried out in Trawenagh Bay as part of the Marine Institute monitoring programme. Results were available back to 08/01/2002. An assessment of the "Status" results was carried out. Of the 316 records since 2002 that were available, the Bay was Closed 11 times, Closed pending 13 times and remained open 292 times. Closed status was due to a series of clusters of test failures i.e.; DSP Bioassay on *Mytilus edulis* in 2005 (6 records), DSP Bioassay on *Crassostrea gigas* in 2010 (2 records) and AZP in 2012 (3 records). Predominantly these 316 samples were based on *Crassostrea gigas* (282 records) with some *Mytilus edulis* (43) records. The current status of the Bay referring to biotoxin levels is "Open". This site has remained open since the 11/12/2012 except for one Closed Pending on 03/09/2013. Toxic Phytoplankton results since 2012 are seen in Table 2 (Source Marine Institute).

Table 2: Toxic Phytoplankton results since 2012.

Sample Date	Sampling Point	Biomass	Species	Count
13/08/2012	Tra Eanach	Low	*Alexandrium spp.*	1680
			Dinophysis acuminata	120
			Karenia mikimotoi	12000
21/08/2012	Tra Eanach	Low	*Alexandrium spp.*	320
			Heterocapsa spp.	2480
			Karenia mikimotoi	3840
28/08/2012	Tra Eanach	Medium	*Alexandrium spp.*	11840
04/09/2012	Tra Eanach	Medium	*Alexandrium spp.*	3040
			Pseudo-nitzschia delicatissima complex	14240
24/09/2012	Tra Eanach	Medium	*Chaetoceros sp.*	1056609
02/10/2012	Tra Eanach	Low	*Azadinium/heterocapsa spp.*	3600
14/06/2013	Tra Eanach	High	*Prorocentrum lima*	280
			Pseudo-nitzschia delicatissima complex	7320
24/06/2013	Tra Eanach	High	*Chaetoceros sp.*	10137366
			Pseudo-nitzschia delicatissima complex	25520
02/07/2013	Tra Eanach	Medium	*Alexandrium spp.*	320
			Dinophysis acuminata	80
09/07/2013	Tra Eanach	High	*Alexandrium spp.*	280
			Azadinium/heterocapsa spp.	13440
			Prorocentrum balticum/minimum	3880

5.4 Statutory Status

The proposed aquaculture site is not located within any NATURA 2000 or other protected sites. There are a number of protected sites located nearby including SAC's (Figure 4) SPA's, (Figure 5) and pNHA's (Figure 6). There are no Natural Heritage Areas within 5km of the proposed site. Table 3 contains the details of the NATURA 2000 sites and their qualifying interests in the vicinity of the proposed aquaculture sites.

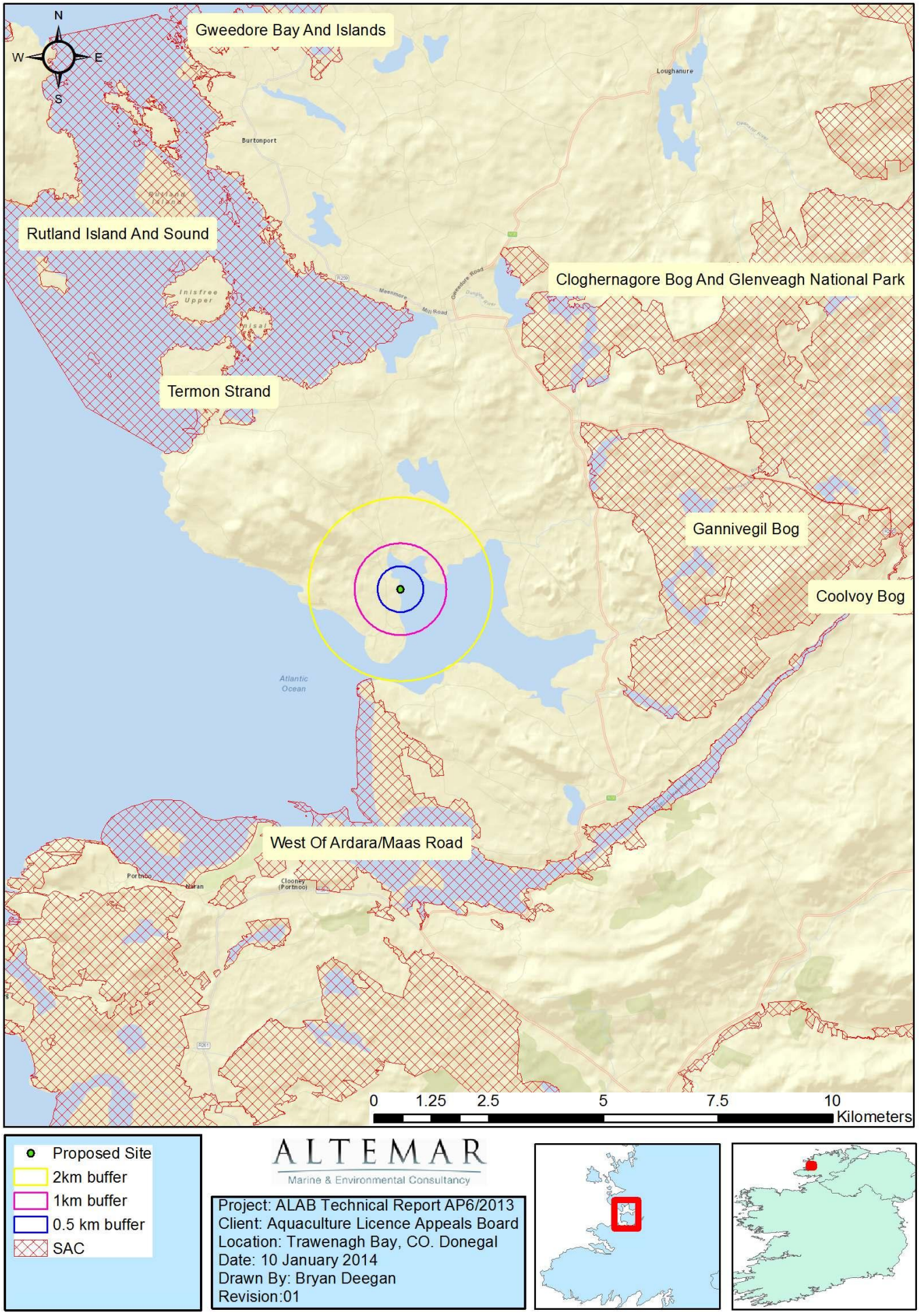

Figure 4: Special Areas of Conservation within close proximity to the proposed aquaculture sites.

Figure 5: Special Protection Areas within close proximity to the proposed aquaculture sites.

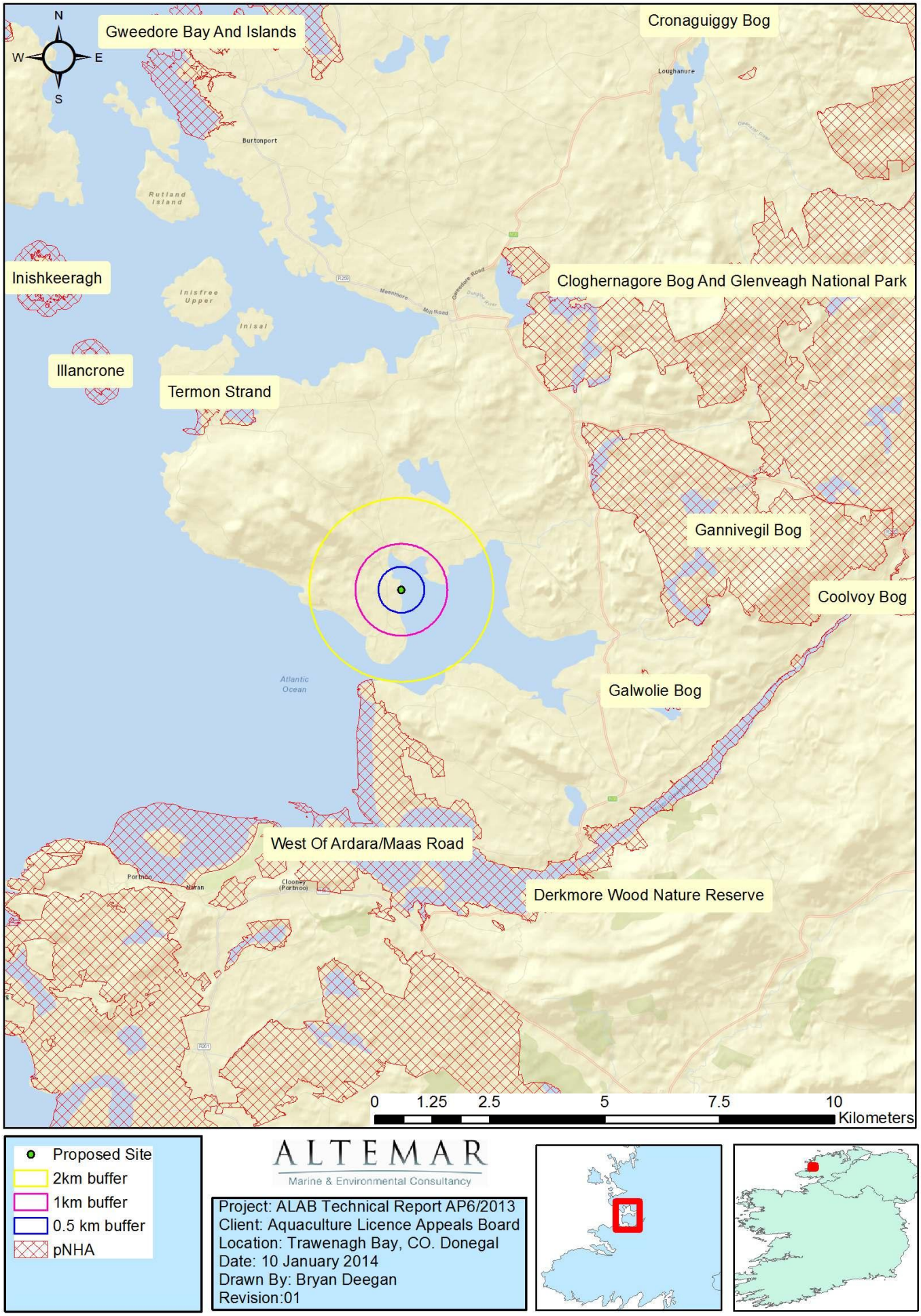

Figure 6: proposed Natural Heritage Areas within close proximity to the proposed aquaculture sites.

5.4.1 Nature Conservation Designations

Table 3: NATURA 2000 sites close to the proposed aquaculture sites and qualifying features.

Site	Qualifying features (EU Importance)
West of Ardara/ Maas Road SAC (000197)	*Vertigo geyeri* [1013] Freshwater pearl mussel (*Margaritifera margaritifera*) [1029] Marsh fritillary (*Euphydryas aurinia*) [1065] Salmon (*Salmo salar*) [1106] Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Large shallow inlets and bays [1160] Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] Otter (*Lutra lutra*) [1355] Common seal (*Phoca vitulina*) [1365] Petalwort (*Petalophyllum ralfsii*) [1395] Mediterranean salt meadows (*Juncetalia maritimi*) [1410] Slender naiad (*Najas flexilis*) [1833] Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Decalcified fixed dunes with *Empetrum nigrum* [2140] Atlantic decalcified fixed dunes (*Calluno-Ulicetea*) [2150] Dunes with *Salix repens ssp.argentea* (*Salix arenariae*) [2170] Humid dune slacks [2190] Machairs [21A0] Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3110] Northern Atlantic wet heaths with Erica tetralix [4010] European dry heaths [4030] Alpine and Boreal heaths [4060] *Juniperus communis* formations on heaths or calcareous grasslands [5130] Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco Brometalia*)(*important orchid sites) [6210] Molinia meadows on calcareous, peaty or clavey-silt-laden soils (Molinion caeruleae) [6410] Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*) [6510] Blanket bog (*active only) [7130] Depressions on peat substrates of the Rhynchosporion [7150] Alkaline fens [7230]
Termon Strand SAC (001195)	Coastal lagoons [1150]
Gannivegil Bog SAC (000142)	Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3110] Northern Atlantic wet heaths with *Erica tetralix* [4010] Blanket bog (*active only) [7130]
Inishkeel SPA (004116)	Barnacle Goose (*Branta leucopsis*) [A396]
West Donegal Coast SPA (004150)	Fulmar (*Fulmarus glacialis*) [A009] Cormorant (*Phalacrocorax carbo*) [A017] Shag (*Phalacrocorax aristotelis*) [A018] Peregrine (*Falco peregrinus*) [A103] Herring Gull (*Larus argentatus*) [A184] Kittiwake (*Rissa tridactyla*) [A188] Razorbill (*Alca torda*) [A200] Chough (*Pyrrhocorax pyrrhocorax*) [A346]
Illancrone and Inishkeeragh SPA (004132)	Common Tern (*Sterna hirundo*) [A193] Arctic Tern (*Sterna paradisaea*) [A194] Little Tern (*Sterna albifrons*) [A195] Barnacle Goose (*Branta leucopsis*) [A396]

5.5 Dunmanus Bay Species Records

5.5.1 Cetaceans

There are no official sightings of cetaceans in Trawenagh Bay on the Irish Whale and Dolphin Group on line database. However, a live stranding of an Atlantic white-sided dolphin did occur in "Traigheanna Bay" on 21st June 2013, which later died. The predominantly intertidal nature of Trawenagh Bay would discourage cetaceans from using Trawenagh Bay. However, the presence of sand eel populations at the mouth of the Bay as recorded by Inland Fisheries Ireland may encourage cetacean activity in this subtidal area.

5.5.2 Birds

Due to the paucity of records available for birds in Trawenagh Bay, the NPWS Ranger for south west Donegal (Emer Magee) was consulted in relation bird species and numbers that use the Bay. Trawenagh Bay is a bay that is not renowned for high numbers of overwintering birds or waders. However, Brent geese and ringed plover are the main species that use the site. During fieldwork two Brent geese were observed at the confluence of the Owennmarve River and the Owenalek River, south of the proposed aquaculture site. A cormorant and a grey heron were actively engaged in fishing in the Owenalek River estuary within the proposed site. A curlew was also seen at the western bank of the Owenalek River, south of the proposed aquaculture site.

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

Phoca vitulina and Halichoerus grypus 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). Gweebarra Bay holds a large resident population of harbour seals yet only 4 adult and one harbour seals were the only seals seen in Twenenagh (1979) throughout the surveys.

A survey carried out by Duck & Morris (2013) from the NERC Sea Mammal Research Unit compared counts in 2003 to a new count in 2011. Trawenagh Bay was not highlighted by itself, but may have been included in Gweebarra Bay data. In 2003, there were 42 and 103 harbour seals and 0 and 48, in 2003 and 2011 respectfully in Gweebarra Bay.

5.5.4 Otter -*Lutra lutra*

Otters are designated under Annex II EU Habitats Directive. Following a review of the literature there was no evidence found of Otters in Trawbrega Bay. No evidence of spraints was found during fieldwork. However, it would be expected that given the proximity to the Owenaleck River and estuary, that otters would be present in the area.

5.6 Statutory Plans

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

5.6.1 Donegal County Development Plan

The Donegal County Development Plan states that "In accordance with Government policy, the Council will support the sustainable development of the aquaculture sector to maximise its contribution to economic growth within the County. In particular, the Council acknowledge the development and expansion of the oyster farming industry in the County and its potential in terms of employment and product export."

It also outlines that "fishing and the marine sector are identified as important elements of the Border Regional Planning Guidelines. Killybegs and Greencastle are two of the most significant fishing ports throughout the Region; and aquaculture is also very important within the County. Expansion of activity in the marine area would create opportunities for the further diversification of the Region's industrial base. It will also be important to diversify marine activity into other areas, to maximise the usage of the sea as a natural resource and provide alternative employment in coastal areas."

Trawenagh Bay is not classed as an area of Especially High Scenic Amenity value. However, the coast of Gweebarra Bay at the mouth of Trawenagh Bay, is classed as Especially High Scenic Amenity area particularly for its sea views.

In the summary of environmental pressures in County Donegal, shellfish growing areas were identified as potentially posing threats to protected habitats. However "the protection of shellfish growing areas from pollution is an issue of significant environmental concern within the County."

Specific Policies and objectives in the Donegal County Development Plan aimed at aquaculture and designated shellfish waters are as follows:

F-P-11 (Flooding Policy) "It is a policy of the Council to facilitate the development of long and short-term flood remediation works, including embankments, sea defences, drainage channels, and attenuation ponds to alleviate flood risk and damage to livelihoods, property and business subject to environmental considerations including potential impact on designated shellfish water and, fresh water pearl mussel catchment areas and compliance with Article 6 of the Habitats Directive."

NH-O-4: (Natural Heritage Objective) "To protect and improve the integrity and quality of Designated Shellfish Waters, and Freshwater Pearl Mussel Basins and to take account of any relevant Shellfish Reduction Program or Fresh Water Pearl Mussel Sub-Basin Plan."

NH-P-3 (Natural Heritage Policy) **"**It is a policy of the Council to require the consideration of Designated Shellfish Waters and their Shellfish Pollution Reduction Programmes in all development proposals that fall within their catchment."

The National Spatial Strategy identifies marine and natural resources, including inland fisheries, sea fisheries, aquaculture, as having an important role to play in providing sustainable alternative sources of employment in rural areas

5.6.2 North Western IRBD Transitional and Coastal Waters Action Programme

This action plan reviewed each of the coastal and transitional waters in the North Western IRBD and outlined the pressures and targets under the WFD. In relation to Trawenagh Bay it states that the Bay is of moderate water quality status and marine pressures included aquaculture. Trawenagh Bay was not under threat from land based pressures including WWTp's and agriculture and that Trawenagh Bay is covered under the Gweebarra Bay Water Management Unit Action Plan.

The report outlines that in the aquaculture areas "measures are included in the Pollution Reduction programmes under the Quality of Shellfish Waters Regulations. DAFF licence shellfish growing areas under the under the Fisheries (Amendment) Act, 1997. Aquaculture is regulated and licensed by the Department of Agriculture, Fisheries and Food; local authorities control discharge licenses for fin fish farms. The Department of the Environment, Heritage and Local Government makes shellfish pollution reduction programmes which provide general water quality protection. A multi-department Marine Coordination Group has recently been established to ensure ongoing co-ordination of marine management activities and application of Appropriate Assessment through strengthened regulation; and coordination of biodiversity issues at an EU level."

This programme aims to restore Trawenagh Bay to Good status by 2021.

5.7 Non-Statutory Plans

5.7.1. Border Regional Authority's Regional Planning Guidelines (2010-2022)

The Border Regional Authority's Regional Planning Guidelines (2010-2022) sets out a framework for the economic development of the Region and the County. It outlines that the natural resource sector which includes "mariculture and aquaculture, which are, and will increasingly become important within this region" In addition the "fishing and the marine sector are important elements of the Border Region's economy. Killybegs, Greencastle and Clogherhead are the most significant fishing ports in the Region; while aquaculture is important in counties Louth, Sligo and Donegal. An expansion of activity in the marine area would create opportunities for the further diversification of the Region's industry base, adding extra value to the Region's output, and better utilising a key natural resource and regional expertise."

5.8 Water Quality Status

The WFD status of the coastal water body IE_NW_130_0000 "Trawena Bay" within which the shellfish area is situated is classes as 'moderate'. The Owenamarve River which discharges into the designated area is 'poor'. The Owenaleck which also discharges into the designated area and through the Aquaculture site in question, is classed as 'good'.

5.9 Man-Made Heritage

National Monuments Service data of recorded National Monuments in the area was acquired (11/02/2014) and plotted. There are no National Monuments within 2 km of the proposed aquaculture site. The closest National Monuments were the following:

Megalithic tomb – unclassified. (DG065-001----) 2.7 km south from the proposed aquaculture site in the townland of An Dumhaig (TC Leitir Mhic an Bhaird). “This monument is on poor pasture broken by outcropping rock near Dooey Point. From the site the ground falls gently toward Trawenagh Bay, c. 400m to the north. The outlook to the south is limited by rising ground.

The remains are scant and difficult to interpret. Two tall opposed stones at the west seem to mark the entrance to a chamber, the only other certain surviving stone of which is a sidestone leaning against the outer face of the northern entrance stone. On the line of the southern side of the chamber and 1.7m east of the sidestone is another set stone, but it is not clear whether it represents a continuation of the structure.”

Souterrain (DG065-002-) 3km south from the proposed aquaculture site in the townland of An Dumhaig (TC Leitir Mhic an Bhaird). “This monument appears to have been a natural sea cave which was adapted to form a souterrain-like structure. It was not possible to enter it but a description made in 1957 suggests a passage of c. 20m, most which was natural, leading to a chamber 16ft × 14ft and 8ft high. The chamber and a portion of the passage were said to have been roofed with flagstones. It is situated on a south facing slope overlooking Dooey sandhills in fair pasture.”

Standing Stone (DG065-003001-) 3.8 km south from the proposed aquaculture site in the townland of An Dumhaig (TC Leitir Mhic an Bhaird). A standing stone, now collapsed, 2.62m long × 0.31m wide × 0.23m thick tapering to .07m known as 'Cloghastuckan' and the 'Hanging Stone'. It originally stood on a large mound which has been excavated and which produced an extensive collection of material belonging to the Early Historic period.

Burial Mound (DG065-003002-) 3.8 km south from the proposed aquaculture site in the townland of An Dumhaig (TC Leitir Mhic an Bhaird)

Midden (DG065-003003-) 3.8 km south from the proposed aquaculture site in the townland of An Dumhaig (TC Leitir Mhic an Bhaird)

Habitation Site (DG065-003004-) 3.8 km south from the proposed aquaculture site in the townland of An Dumhaig (TC Leitir Mhic an Bhaird)

Promontory Fort (DG056-002-) 3.9 km north west of the proposed aquaculture site in the townland of An Machairea. A promontory on the N shore of Aghnish Lough is cut off by a stone wall which runs from the rock outcrop on the W to within 5m of the E side. The top of the wall is comprised of small stones and is probably modern rebuilding but the base, c. 1m thick, is composed of larger stones with their flat edges to the outside. Two slabs 1.1m in length in a central position and at right angles to the wall would appear to be the remains of an entrance. Other slabs on the inside N of the wall continue the line of the entrance. The original gap of 1.11m is now filled by modern building.

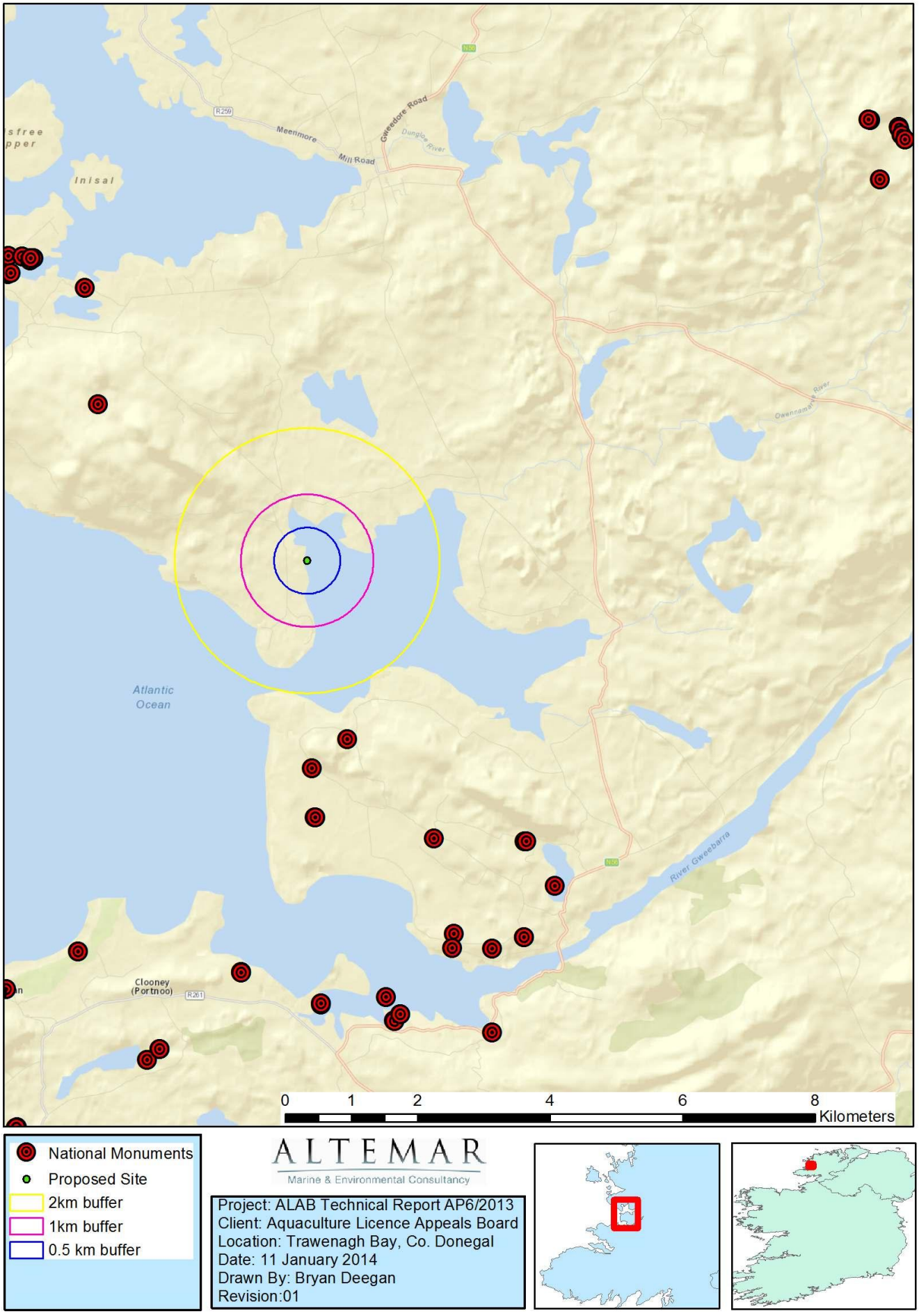

Figure 7. National Monuments in the vicinity of the proposed Aquaculture site.

Section 61 Assessments

Section 61 of the Fisheries Amendment Act 1997 states that:

"The licensing authority, in considering an application for an aquaculture licence or an appeal against a decision on an application for a licence or 11 revocation or amendment of a licence, shall take account, as may be appropriate in the circumstances of the particular case, of-

(a) the suitability of the place or waters at or in which the aquaculture is or is proposed to be carried on for the activity ill 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 mill-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 site is located within a designated shellfish area, close to the intertidal subtidal interface in a very sheltered location in a bay that is deemed to have sufficient flushing capacity to remove farm wastes and have sufficient volume that the local environment will not be impacted upon. Based on the fieldwork assessment there is no sign of high organic loading of build-up of H_2S, *Beggitoa* sp or an anoxic layer in the sediment close to the surface.
2. The trestles to be used on the farm are not significant size and would not give the impression that they will negatively impact on the benthic environment or surrounding ecology.
3. The proposed site in in a very sparsely populated area with poor road access and would not be expected to impact negatively on Trawenagh Bay and its potential for tourism. Trestles would only be seen at low tide.
4. There is sufficient space on the site for the development of a small aquaculture holding.
5. The proposed development will not significantly impact on tourism, NATURA 2000 sites, man made heritage, beneficial users, statutory status or the economy of the local or wider area.

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

1) A significant section of the proposed aquaculture licence area includes the estuarine element of the Owenalek River (Figure 3).
    a) A salinity value of 7.8 ppt was recorded in the river at the proposed site. This value is below the optimal requirements of *Crasostrea gigas & Ostrea edulis* and outside the limits of designated shellfish areas (12 ppt).
    b) This river is a migration route for sea trout up to the Alec Mor system, which is part of the Rosses Fishery. The placing of trestles within the river would inhibit the migration of sea trout particularly at low water..
    c) The channel is a recreational boating route for local residents and the placing of trestles within the river would impede navigation, particularly at mid to low tide levels.
    d) The depth of the river varied from 40cm in the northern end of the site to 70cm at the southern end of the proposed site. The placing of oysters on trestles in this area may lead to sub optimal conditions and stress on oysters due to freshwater, particularly at low tide if they are immersed.
    e) If David Gallagher is proposing only to farm on the intertidal areas of his site, these areas are fragmented. If he is using machinery it will be necessary for him to cross the channel with machinery several times due to the rocky outcrops. With a depth of 70cm in places at low water the incoming tide may put Mr Gallagher and his machinery at risk.
2) Certain areas within the middle of the T12/389A on the western shore of the river do have areas of liquefied sandy mud that would be difficult to operate within. These areas are however small and could be easily avoided. The bed of the channel was found to be sound throughout its length.
3) Seaweed harvesting is carried out on the rocky intertidal area beside the proposed site. Sufficient room would be needed to allow access for harvesting activities.

6.2 Existing/Potential beneficial Uses

Tourism/Recreation/Leisure

As stated in Section 5.2, there is some tourism in the area but, this appears to be on an *ad hoc* basis. The site is very remote and not close to main tourist areas. There are no tourist attractions nearby and the area is not renowned for its wildlife. The siting of the trestles within, or near, the Owenalek River could impede recreational boat / canoeing within the Bay.

The proposed aquaculture site may impact tourism and leisure users of the area if trestles are situated within the Owenalek River.

Fishing/ Harvesting

The proposed site is in close proximity to a seaweed harvesting area. The knotted wrack (*Ascophyllum nodosum*) is commercially harvested on the intertidal rocky shore to the immediate west of the aquaculture site (Figure 3). The proposed aquaculture site would not interfere with this activity so long as enough room is given for harvesters between trestles and the rocky shore (e.g. 2 meters). In addition, if the area west of the Owenalek River is to be intensively farmed, sufficient room should be given to harvesters to create piles of cut weed without having to cross the river. Harvesters should be consulted prior to the installation of trestles.

The Owenalek River estuary is not used as a route for commercial fishing activity. However, it is used for recreational boat access by local residents. The siting of the trestles within or near the Owenalek River could impede recreational fishing activity within the Bay.

The proposed aquaculture site may impact on fishing and seaweed harvesting users of the area if trestles are situated within the Owenalek River and sufficient room is not given to seaweed harvesters to collect and remove their crop.

6.3 Statutory Status

The proposed aquaculture site **will not have a *significant impact*** on the statutory status of the area for the following reasons:

It is not foreseen that the aquaculture operations at the site would impact on current or potential development plans or measures within the vicinity, in accordance with the Donegal County Development Plan or other plans.

6.4 Economic Effects

The scale of the proposed aquaculture site is very small (20 tonnes p/a) and would only be expected to benefit the applicant through the hiring of 3 part-time workers. As outlined in the EIA screening existing infrastructure will be used and no additional infrastructure elements are needed.

The proposed site is likely to have a **non-significant positive effect** on the 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 or Birds Directives)	Potential impacts
West of Ardara/ Maas Road SAC (000197)	*Vertigo geyeri [1013]* *Freshwater pearl mussel (Margaritifera margaritifera) [1029]* *Marsh fritillary (Euphydryas aurinia) [1065]* *Salmon (Salmo salar) [1106], Estuaries [1130]* *Mudflats and sandflats not covered by seawater at low tide [1140]* *Large shallow inlets and bays [1160]* *Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]* *Otter (Lutra lutra) [1355], Common seal (Phoca vitulina) [1365]* *Petalwort (Petalophyllum ralfsii) [1395]* *Mediterranean salt meadows (Juncetalia maritimi) [1410]* *Slender naiad (Najas flexilis) [1833]* *Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120]* *Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]* *Decalcified fixed dunes with Empetrum nigrum [2140]* *Atlantic decalcified fixed dunes (Calluno-Ulicetea) [2150]* *Dunes with Salix repens ssp.argentea (Salix arenariae) [2170]* *Humid dune slacks [2190], Machairs [21A0]* *Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]* *Northern Atlantic wet heaths with Erica tetralix [4010]* *European dry heaths [4030]* *Alpine and Boreal heaths [4060]* *Juniperus communis formations on heaths or calcareous grasslands [5130]* *Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia)(*important orchid sites) [6210]* *Molinia meadows on calcareous, peaty or clavey-silt-laden soils (Molinion caeruleae) [6410]* *Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis) [6510]* *Blanket bog (*active only) [7130]* *Depressions on peat substrates of the Rhynchosporion [7150]* *Alkaline fens [7230]*	This site is over 2 km from the proposed aquaculture site. Terrestrial and freshwater habitats and species will not be impacted upon. Common seal and Salmon may migrate into Trawenagh Bay. The presence of an aquaculture facility may cause local disturbance to common seals. However, based on NPWS data Trawenagh Bay is not an important haul out or breeding area for seals. In addition, there is currently a larger scale operation within 200m of the proposed facility. The migration route of salmon would be towards the east of Trawenagh Bay and up to the Owenmarve River. **No significant impact is predicted**.
Termon Strand SAC (001195)	Coastal lagoons	This site is over 6 km from the proposed aquaculture site. **No significant impact is predicted**.
Gannivegil Bog SAC (000142)	*Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]* *Northern Atlantic wet heaths with Erica tetralix [4010]* *Blanket bog (*active only) [7130]*	This site is an inland site over 5 km from the proposed aquaculture site. **No significant impact is predicted**.
Inishkeel SPA (004116)	- *Barnacle Goose (Branta leucopsis) [A396]*	This site is over 8 km from the proposed aquaculture site. Barnacle Geese were seen during fieldwork. However, due to the nature and distance from this SPA no impact is predicted. **No significant impact is predicted**.

NATURA 2000 site	Species or Habitat of Qualifying Interest (Annex habitat or species within the Habitats or Birds Directives)	Potential impacts
West Donegal Coast SPA (004150)	Fulmar (Fulmarus glacialis) [A009] Cormorant (Phalacrocorax carbo) [A017] Shag (Phalacrocorax aristotelis) [A018] Peregrine (Falco peregrinus) [A103] Herring Gull (Larus argentatus) [A184] Kittiwake (Rissa tridactyla) [A188] Razorbill (Alca torda) [A200] Chough (Pyrrhocorax pyrrhocorax) [A346]	This site is over 10 km from the proposed aquaculture site. Cormorants were observed feeding in the Owenalek River at the proposed location of the aquaculture site. The site should not be developed within the Owenalek River. **No significant impact is predicted**.
Illancrone and Inishkeeragh SPA (004132)	Common Tern (Sterna hirundo) [A193] Arctic Tern (Sterna paradisaea) [A194] Little Tern (Sterna albifrons) [A195] Barnacle Goose (Branta leucopsis) [A396]	This is an offshore SPA 9 km to the NW of the proposed aquaculture site. **No significant impact is predicted**.

It is likely that there will be a ***no significant impact*** on the qualifying interests of the above NATURA 2000 sites, or Annex species outside these areas sites, as a result of the proposed aquaculture operation.

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
Obstruction	Sea Trout	The Owenalek River is a migration route for Sea Trout up to the Alec Mor system, which is part of the Rosses Fishery. The placing of trestles within the river would inhibit the migration of sea trout. **A significant impact would occur if trestles were placed in the Owenalek River.**
Deposition/ accumulation of organic matter	Benthic Invertebrates/Fish /Birds/Otters/Seals Cetaceans	There were no signs of nutrient enrichment within the immediate site area. The flushing capacity of the bay is high with two full flushing episodes of the entire bay each day. Fauna densities within the bay appeared poor, also indicating an area poor in nutrients. It is possible that localised impacts may be seen near the trestles, but these are deemed unlikely and insignificant.
Altered water chemistry & reductions in Phytoplankton and seaweed abundance	Phytoplankton & Seaweed/ Fish /Cetaceans	Trawenagh Bay has a significant flushing capacity. The installation of a small shellfish farm in this bay would have a negligible impact on water chemistry/ phytoplankton numbers and seaweed abundance.
Disturbance	Birds/Otters/Seals Cetaceans	Minor disturbance may occur to birds in the vicinity of the farm of individuals feeding in the Owenalek River. **Trestles should not be placed in the Owenalek River as piscivorous birds use this area at low tide**.

6.6 General Environmental effects

An EIA Screening assessment was carried out on the area (& McSwynes Bay) on the 11/09/2013. It concluded that the activities outlined in the screening assessment, including the proposed development for the production of oysters by Mr David Gallagher in Trawenagh Bay (Site T12/389) did not require an Environmental Impact Statement. In the EIA screening assessment the following were noted:

Use of Natural Resources – "High levels of plankton occur naturally at the location and shellfish cultivation at this scale will not result in limiting plankton growth or abundance"

Waste – "The amount of produced faeces and pseudofaeces will be small and the impacted area will be limited to the area immediately beneath the trestles. The site is well flushed and build up of excess on site will not be permitted."

Noise – "There will be noise associated with the husbandry and harvesting of shellfish from tractor and other machinery. Noise levels will not be significant."

Public Access– "Public access to recreation and other activities will not be impacted by the project."

Existing Water Quality – "Results from monitoring under the Shellfish Waters Directive do not indicate any water quality issues in the vicinity of the proposed shellfish production area."

Social Changes – "The impact will be beneficial but not significant"

6.6.1 Potential impacts

Having assessed the potential environmental impacts outlined above the proposed site could potentially have a significant impact on the environment if it was allowed to place trestles in the Owenalek River. This would impact on migrating sea trout and piscivorous birds. In addition, the site location, with its proximity to freshwater is not optimal for the culture of Oysters. Salinities of 7ppt were recorded. If trestles are placed in the river, even though oysters could potentially be filter feeding for the entire tidal cycle the oysters could be placed under stress due to the freshwater input into the site.

If sufficient buffer is given between the river and the siting of trestles no significant impact would be predicted. In this case, the conditions of the appealed licence should also be upheld and there are no grounds on which to deny providing the licence to David Gallagher.

6.7 Effect on Man-Made Heritage

See section 5.9 for additional details. No National Monuments are within 2 km of the proposed small scale aquaculture development. The proposed site is located in the intertidal and the trestles will be temporary removable structures.

It is therefore likely that the proposed development will not impact on man-made heritage of value in the area.

7 Section 61 Assessment Conclusions

A technical review was carried out by Altemar Ltd. in relation to an aquaculture licence appeal for the awarding of a licence to Mr David Gallaher in Trewenagh Bay, Co. Donegal under Section 61of 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 could potentially impact on the environment, primarily if the Owenalek River is used to place trestles. This could impede the migration of Sea Trout up to the Alex Mor system.

In addition, the channel which lies within the proposed site is the outflow from the Owenalek River. The low salinity observed (7ppt) in this river would impact negatively on growth and survival of oysters and therefore hinder the business of David Gallagher. As outlined in the objection by Edward Gallagher, “oysters simply do not grow there”. This is possibly true, as the oysters would be under stress in low salinities particularly at or near low water.

However, the proposed development is very small, in a well flushed bay and besides the issues outlined above the development will not have a significant impact on any of the other elements outlined in Section 61 of the Fisheries (Amendment) Act 1997.

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 **to grant the licences for the site T12/389A &T12/389B** to Mr David Gallagher. However this is **solely subject to the alterations to site location or conditions outlined below**.

The proposed site poses ***no significant*** **impact** on:

1) other users of the area (assuming sufficient room is given to seaweed harvesters),
2) the particular statutory status of the place or waters,
3) the economy of the area,
4) the environment generally in the vicinity of the place or water on or in
5) the foreshore,
6) on the man-made environment or heritage value in the vicinity.

The proposed site poses ***a significant*** **impact** on:

1) "on wild fisheries, natural habitats and flora and fauna".
   This is solely due to the unfortunate placement of the proposed site within the estuarine element of the Owenlek River, where the placement of trestles within the river will have an impact on migrating sea trout into the Alek Mor system.
2) The growth and survival of Oysters. The low salinity observed in the channel indicates that immersion of oysters in the "channel" (Owenalek River) will result in stressful conditions due to freshwater input and will reduce the growth rates and survival of oysters.

Recommendations

1) It is recommended that the the aquaculture licence area is moved slightly to the east and give at least a 15m buffer to the Owenalek River. This would:
   a) Allow free migration to sea trout up the Owenalek River;
   b) Provide more workable ground on which to establish a productive site for aquaculture;
   c) Allow free recreational boat navigation up the Owenalek River;
   d) Allow the Mr David Gallagher to work his full licence area without restriction;
   e) Allow a dilution of the freshwater by the incoming tide before the trestles are reached providing better environmental conditions for oysters;
   f) Allow unhindered harvesting of knotted wrack;
   g) Remove the possible necessity for Mr David Gallagher to continually cross the River to manage his fragmented site. This wouldminimise disturbance of the river and also remove the threat of machinery being lost in an incoming tide.

   If the site was moved to sufficient distance from the Owenalek River onto the sand flat to the east, the licence should be granted without the conditions outlined within this report. No significant impact would be foreseen on any of the elements outlined in Section 61

of the Fisheries (Amendments) Act 1997.

Sufficient distance would be to move the entire plot in the region of 80 meters to the east. This movement is possible for T12/389A without impacting on other farmers. However, it is suggested that T12/389B is moved east 80 meters and north 80 meters to provide an extension to the lower section of T12/389A.

If it is movement of the sites is not possible, the following conditions to the licence should be included:

1. Aquaculture is not carried out within 3 m of the Owenalek River or “channel” (at river flood levels).
2. Navigation markers should be placed at approx. 100m intervals (7 in total) along the edge of trestles so as to aid safe navigation up the Owenalek River.
3. Sufficient room should be given to seaweed harvesters in the area. Prior consultation should take place with harvesters prior to placing trestles on the sand flats near the intertidal rocky shore.

9 Draft Determination

1) **It is recommended to grant a licence for this site, based on the movement of the site to the east or by applying the conditions outlined.**

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