Appeal Ref No.
AP1/2020, AP2/2020, AP19/2020 & AP20/2020

Aquaculture Licences Appeals Board

Technical Advisor's Report

Description: The following Technical Advisor Report is an assessment of aquaculture license appeals in respect to licences T12-540 (Philip Doherty), T12_541A (Cathal McCorkell) and T12_531A & T12_532A (Oceanic Organic Oysters Limited), where the applicants are appealing the refusal of granting their licences by the Minister.

Final Version

Licence Application

Appeal	Site	Applicant	Minister's Decision
AP1/2020	T12-540	Philip Doherty	Refusal
AP2/2020	T12_541A	Cathal McCorkell	Refusal
AP19/2020	T12_531A	Oceanic Organic Oysters Limited	Refusal
AP20/2020	T12_532A	Oceanic Organic Oysters Limited	Refusal

Appeal

Appeal	Site	Appellant	Type of Appeal
AP1/2020	T12-540	Philip Doherty	Appeal Refusal
AP2/2020	T12_541A	Cathal McCorkell	Appeal Refusal
AP19/2020	T12_531A	Oceanic Organic Oysters Limited	Appeal Refusal
AP20/2020	T12_532A	Oceanic Organic Oysters Limited	Appeal Refusal

Observers: None

Technical Advisor: Bryan Deegan, Altemar Limited.

Date of site Inspections: 15th January 2020, 24th May 2020, 17th November 2020

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1.0 General Matters / Appeal Details

1.1 Appeal Details & Observer Comments / Submissions

Appeal	Site	Date Appeal Received	Location
AP1/2020	T12-540	02nd January 2020	Trawbreaga Bay, Co. Donegal
AP2/2020	T12_541A	06th January 2020	Trawbreaga Bay, Co. Donegal
AP19/2020	T12_531A	9th January 2020	Trawbreaga Bay, Co. Donegal
AP20/2020	T12_532A	9th January 2020	Trawbreaga Bay, Co. Donegal

1.2 Name of Appellant (s):

Appeal	Site	Appellant
AP1/2020	T12-540	Philip Doherty
AP2/2020	T12_541A	Cathal McCorkell
AP19/2020	T12_531A	Oceanic Organic Oysters Limited
AP20/2020	T12_532A	Oceanic Organic Oysters Limited

1.3 Name of Observer (s)

No official observations outside of Appellants/Applicants response were submitted.

1.4 Grounds for Appeal

Appeal	Site	Type of Appeal	Grounds for Appeal and Appellant's response
AP1/2020	T12-540	Appeal Refusal	**Minister** "*The separation of the proposed site by a gap of approximately 18-24 meters from the band already licensed on the north shore of the bay is not appropriate*." **Appellant** "*This site refused would align with sites in the west and east side of the bay and makes more sense when we are doing the navigational plan in the bay through BIM and CLAMS*. **Minister** "*Licensing the site would be contrary to the orderly aquaculture development in the bay*." **Appellant** "*This does not make sense as this site is surrounded by licensed sites, and it's a small size as similar in the bay*." **Minister** "*Licensing the site would also introduce oyster aquaculture into an area of potentially greater sediment mobility than existing sites*." **Appellant** "*The sediment is much the same in the bay and the sites surrounding it. Other sites which have been granted in Trawbreaga bay also present these characteristics."*
AP2/2020	T12_541A	Appeal Refusal	**Minister** "*Development of this site would have negative impacts on the operations of existing oyster farms causing reduced growth and having a hydrodynamic impact with a potential for sedimentation pattern change, and rerouting of currents in the area*." **Appellant** "*As part of a good site management plan that I will be adopting ,good husbandry which includes breaks between lines of trestles and raising the trestles annually which prevents debris/ sedimentation build up or disturbance to water flow to any neighbouring sites therefore having no negative impact to existing oyster farms causing no reduction in growth to these existing farms also*." RE hydrodynamic impact with a potential for sedimentation pattern change and rerouting of currents in the area. "*This site is located on a very stable part of the bay which has a very strong*

Appeal	Site	Type of Appeal	Grounds for Appeal and Appellant's response
			current that flows over this and this firm/stable platform is evident at low tide with a very hard surface which is clear of any sand or debris which makes this location ideal for trestle placement." "*The small size of this proposed site would have no hydrodynamic impact in this area due to the small number of trestles that would be used on it thus no rerouting of currents would take place in that area or surrounding areas*." "....*good husbandry with breaks in the rows of trestles and trestles being raised annually e.t.c this would prevent any build up of sedimentation thus having no impact on currents in the area, as can be clearly seen on my application form the trestle layout on the proposed site runs parallel with the trestle lines in the neighbouring sites layout which is important as the currents in this area run in the same direction as all trestle lines preventing any rerouting of currents or sedimentation build up therefore having no negative impacts on the currents or tides in that area*." **Minister** "*The site would have negative impact on the passage of migratory fish passage and boats in the low water channel."* **Appellant** "*The proposed site does not lay within the low water channel and therefore will have no impact on navigational safety....The application is not located near any channels leading to the rivers supporting populations of migratory fish in the trawbreaga bay catchment, The rivers that have being mentioned of concern by IFI (Donagh and the Glenagannon rivers) as part of the statutory consultation process are on the other side of trawbreaga bay*." **Minister** "*The application is excessive in size of respect of past licensing policy and licensing of the site would not be in accordance with orderly development policy in the bay*." **Appellant** "*We were not made aware at any stage during the application or deliberative process that such a policy exists regarding the recommended size for an aquaculture site in trawbreaga bay, if such policy does exist we are willing to reduce the site footprint accordingly."*
AP19/2020	T12_531A	Appeal Refusal	**Minister** "*The site substrate is unsuitable with areas of uneven profile and areas exposed to strong hydrodynamic action that would be subject to not infrequent sediment movements*." **Appellant** "*This is not the case....If we thought any of the concerns raised would become problems we would not be interested in applying for the sites. I would like to ask what if any scientific study has been done to prove any of the concerns raised*..." **Minister** *"Trestle placement on or close to this area of mobile sand would result in sinking or burial of trestles placed and would also be very likely to negatively affect hydrodynamics in the area*." **Appellant** "*to prevent a build up of sand our policy is to lay out the trestles in double rows and a wide road for the tractor between each double row. This has always minimised the build up of sand to the extent that silting has never been a problem for us. At the end of each season it is our policy to lift and move all the trestles and this eliminates the problem entirely*." **Minister** "*Development of this site would have negative impacts on the operations of existing oyster farms causing reduced growth and having a hydrodynamic impact with a potential for sedimentation pattern change, and rerouting of currents in the area."* ***Appellant*** *"As far as I can see from the map, sites have been granted before that are seaward of one another without causing any problem to growth*"
AP20/2020	T12_532A	Appeal Refusal	As per AP19/2020.

Non Substantive Issues

Appeal	Site	Non Substantive Issues
AP1/2020	T12-540	The issue "The separation of the proposed site by a gap of approximately 18·24 metres from the band already licensed on the north shore of the bay is not appropriate." cannot be addressed by the Technical Advisor report and is deemed to be a non-substantive issues.
AP2/2020	T12_541A	None
AP19/2020	T12_531A	None
AP20/2020	T12_532A	None

Substantive Issues

Appeal	Site	Substantive Issues
AP1/2020	T12-540	"orderly aquaculture development in the bay", location and layout of site and sediment mobility are substantive issues.
AP2/2020	T12_541A	Substantive issues include the statement by the Minister that "The application is excessive in size of respect of past licensing policy and licensing of the site would not be in accordance with orderly development policy in the bay", "negative impacts on the operations of existing oyster farms causing reduced growth and having a hydrodynamic impact with a potential for sedimentation pattern change, and rerouting of currents in the area." and "negative impact on the passage of migratory fish passage and boats in the low water channel."
AP19/2020	T12_531A	Substantive issues include "The site substrate is unsuitable with areas of uneven profile and areas exposed to strong hydrodynamic action that would be subject to not infrequent sediment movements", "Trestle placement on or close to this area of mobile sand would result in sinking or burial of trestles placed and would also be very likely to negatively affect hydrodynamics in the area" and Development of this site would have negative impacts on the operations of existing oyster farms causing reduced growth and having a hydrodynamic impact with a potential for sedimentation pattern change, and rerouting of currents in the area".
AP20/2020	T12_532A	Substantive issues include "The site substrate is unsuitable with areas of uneven profile and areas exposed to strong hydrodynamic action that would be subject to not infrequent sediment movements", "Trestle placement on or close to this area of mobile sand would result in sinking or burial of trestles placed and would also be very likely to negatively affect hydrodynamics in the area" and Development of this site would have negative impacts on the operations of existing oyster farms causing reduced growth and having a hydrodynamic impact with a potential for sedimentation pattern change, and rerouting of currents in the area".

1.5 Minister's submission

Section 44 of the Fisheries (Amendment) Act 1997 part 2 states that "The Minister and each other party except the appellant may make submissions or observations in writing to the Board in relation to the appeal within a period of one month beginning on the day on which a copy of the notice of appeal is sent to that party by the Board and any submissions or observations received by the Board after the expiration of that period shall not be considered by it.

No submissions are enclosed from the Minister or any other party in light of the appeal.

1.6 Applicant response

As per Section 44 part 2 of the Fisheries" Amendment Act 1997 which states "The Minister and each other party except the appellant may make submissions or observations in writing to the Board in relation to the appeal within a period of one month beginning on the day on which a copy of the notice of appeal is sent to that party by the Board and any submissions or observations received by the Board after the expiration of that period shall not be considered by it. The following section contains the salient points from each communication as stated by the applicant and is not a full representation of the letters provided:

No submissions are enclosed from the Applicants or any other party in light of the appeal.

2.0 Consideration of Non-Substantive Issues

Only Substantive issues have been considered. However, it is not possible for the Technical Advisor Report to cover the internal policy decisions.

3.0 Oral Hearing Assessment

In line with Section 49 of the Fisheries Amendment Act 1997 an oral hearing may be conducted by the ALAB regarding the licence appeals. The applicants/appellants did not submit a request for an oral hearing with their Appeal forms:

Appeal	Site	Request for Oral Hearing
AP1/2020	T12-540	No
AP2/2020	T12_541A	No
AP19/2020	T12_531A	No
AP20/2020	T12_532A	No

Having reviewed the Ministers File, additional correspondence from the appellants/ applicants/ Department of Agriculture, Food and the Marine and carried out a site visit, there is sufficient evidence in this technical report to make a clear decision in relation to the appeals that involve substantive issues. As a result, it is felt that an Oral Hearing is not required in these cases.

4.0 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 and were reviewed. ArcGIS shapefiles were also sent from the Department to Altemar Ltd. for the review and incorporate into the mapping element. An updated Appropriate Assessment was also provided.

Dates of individual elements noted within the Ministerial File:

Appeal	Site	Application Form	SFPA Obs	Engineer	AFMD	BIM Obs	TT&S Obs	DAU Obs
AP1/2020	T12-540	11/04/2019		09/08/2019	08/05/2019			11/09/2019
AP2/2020	T12_541A	07/01/2019	26/02/2019	09/08/2019	22/01/2019		02/04/2019	11/09/2019
AP19/2020	T12_531A	31/10/2018	10/03/2019	09/08/2019				11/09/2019
AP20/2020	T12_532A	02/11/2018	09/01/2019	09/08/2019			02/04/2019	no date

Appeal	IFI Obs	MI Obs	Irish Lights	An Taisce	DCC	Foreshore Licence	Donegal Democrat	Applicant Submission
AP1/2020	19/08/2019	26/08/2019	08/05/2019	12/09/2019	11/09/2019	Refusal	12/12/2019	Yes
AP2/2020	19/08/2019	26/08/2019	23/01/2019	12/09/2019	11/09/2019	Refusal	12/12/2019	Yes
AP19/2020	19/08/2019	26/08/2019	05/02/2019	12/09/2019	11/09/2019	Refusal	12/12/2019	Yes
AP20/2020	19/08/2019	26/08/2019	22/10/2019	12/09/2019	11/09/2019	Refusal	12/12/2019	Yes

5.0 Context of the Area

5.1 Physical descriptions

As outlined in the Shellfish Pollution Reduction Programme, Site Characterisation Report Number 29[1] "Trawbreaga is situated in County Donegal in the North Western International River Basin District (Figures 1 & 2). It is a well-sheltered bay which lies on the northwestern coast of the Inishowen Peninsula. Doagh Isle, a low-lying, sandy promontory, stretches across the mouth of the bay, leaving only a narrow strait to the open sea. The bay area empties at low tide to expose a mixture of mudflats, sandbanks and stony/rocky substrates. The designated shellfish area is 4.3 km^2 and stretches from Moanrealtagh Point to Duaghmore Point and around Fergal Point.

The contributing catchment of the shellfish area is 144.4 km² in area and includes a number of small rivers and streams, chiefly the Ballyboe, Donagh and Glennagannon rivers (Figure 3).

The population of the catchment is approximately 4,000. The main towns in the catchment are Carndonagh with a population of 1,923 and Malin with a population of 122. The bay is mostly surrounded by agricultural land of low to moderate intensity. The estimated number of sheep and cattle in the catchment is 27,000 and 4,500 respectively."

The designated shellfish area is seen in Figure 4. The aquaculture sites in question are located throughout the Bay (Figure 2). The closest weather station to the Trawbrega Bay is Malin Head. Based on Met Eireann Data[2] the mean annual, rainfall is 1107.0mm, temperature is 9.7.C. Watercourses that feed Trawbreaga Bay are seen in Figure 3.

The sites T12_540 (AP1/2020), T12_541A (AP2/2020), T12_531A (AP19/2020) and T12_532A (AP20/2020) for which contain substantive issues are highlighted in Figure 2. Photograph the Bay during field assessment are seen in Plates 1 to 5. The locations of these images are seen in Figure 4.

[1] https://www.housing.gov.ie/sites/default/files/publications/files/filedownload21897en.pdf
[2] https://www.met.ie/climate/available-data/monthly-data

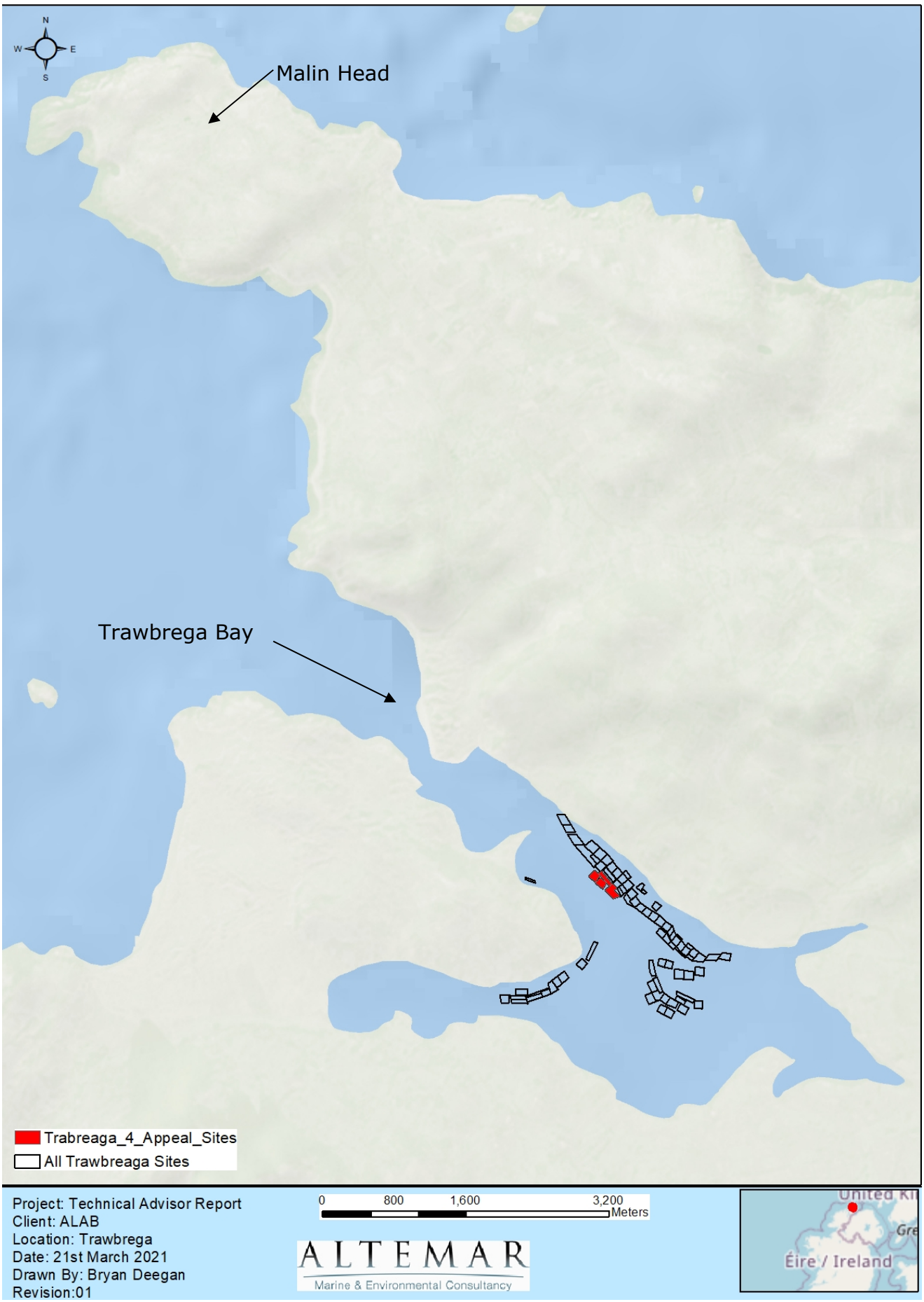


Figure 1. Trawbreaga Bay.

Figure 2. Satellite imagery of Trawbreaga Bay, Co. Donegal (Bing).

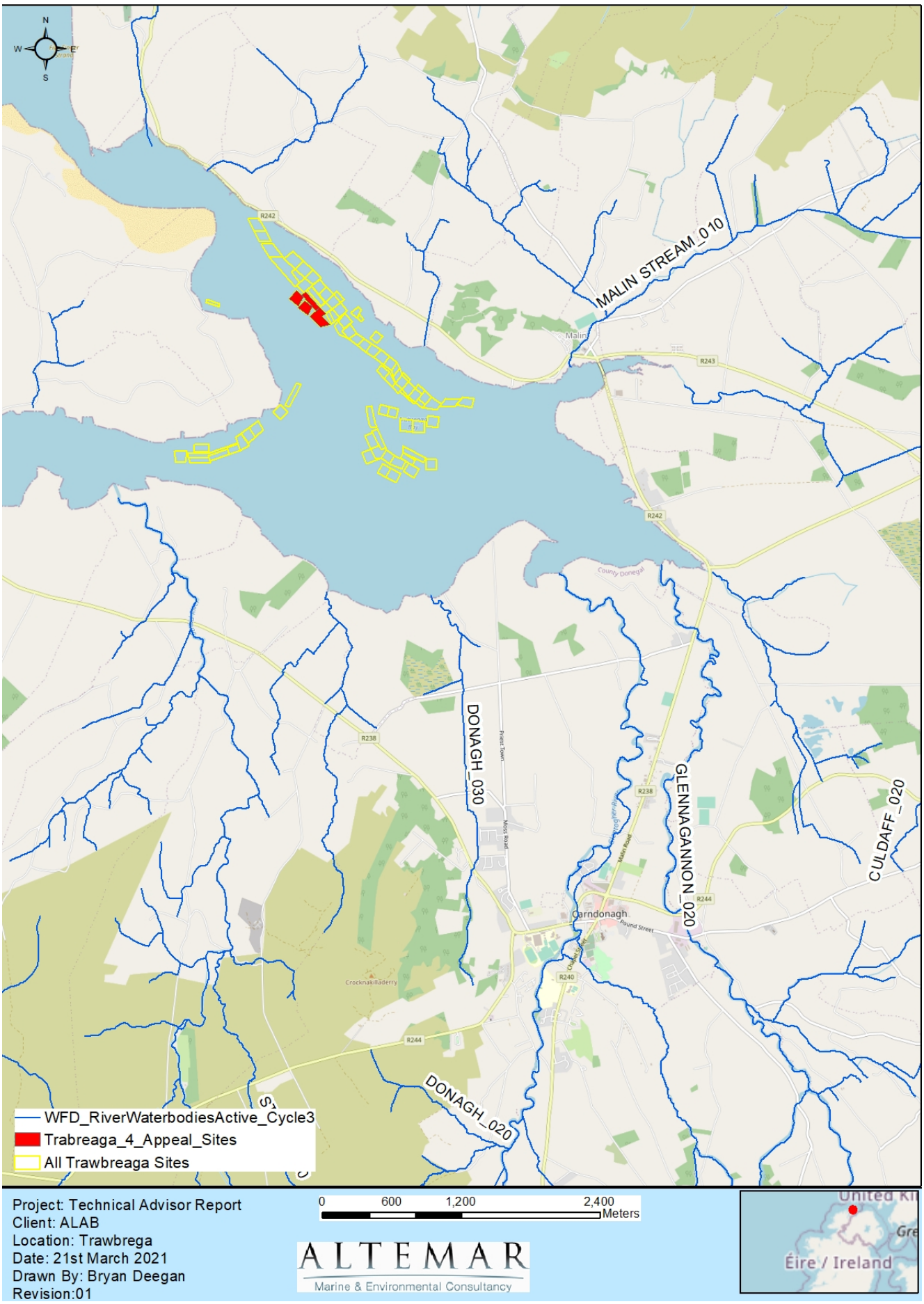


Figure 3. Watercourses entering Trawbreaga Bay.

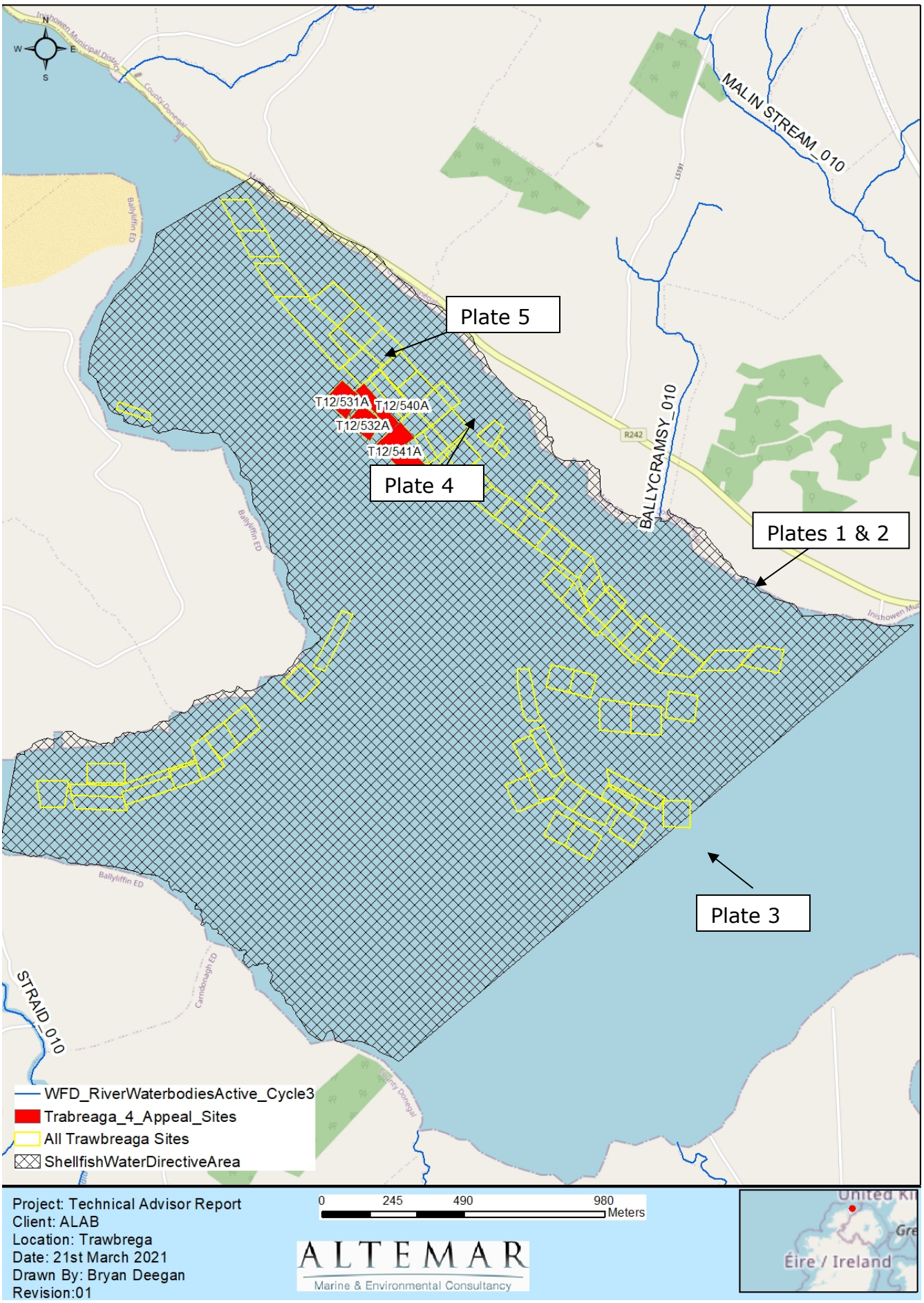


Figure 4. Designated Shellfish Waters.

Plate 1. Image of the Northern shore of Trawbreaga Bay.

Plate 2. Image of the anoxic sediment near the sediment surface (boot scrape) within the inner Bay possibly indicating low oxygen levels within the sediment.

Plate 3. Image of the aquaculture activity being carried out within the Bay.

Plate 4. An access track from northern shore.

Plate 5. Existing trestles near the appeal sites.

5.2 Resource Users

Shellfish

Oysters

As outlined in the Report supporting Appropriate Assessment of Aquaculture in North Inishowen Coast SAC (Site code: 002012) (Marine Institute, 2018) aquaculture activities "occur at Trawbreaga Bay, focussing primarily on the cultivation of the Pacific oyster *C. gigas.* Descriptions of spatial extents of existing and proposed aquaculture activities within the qualifying interest were calculated using coordinates of activity areas in a GIS (Figure 4). The spatial extent of the cultivation activities (current and proposed) overlapping the habitat features is presented in Table 1 (data provided by DAFM)."

Table 1. Spatial extent of aquaculture activities and access routes overlapping with the qualifying interest (1140 Mudflats and sandflats not covered by seawater at low tide) in North Inishowen Coast SAC. Aquaculture activities presented according to culture type, method and license status.

				1140 - Mudflats and sandflats not covered by seawater at low tide (988ha)	
Culture Type	Method	Status	No of Licences	Area (ha)	% Feature
Oysters	Intensive	Licensed	23	17.08	1.72
Oysters	Intensive	Application	48	73.64	74
Access Routes				6.77	0.69
Grand Total				**97.72**	**9.89**

"Oyster production has been operational in Trawbreaga Bay since the late 1990's, however it was not until the early noughties that licenses were first issued for the area. In

2001 there were 26 licences to farm oysters in the Trawbreaga Bay area. Currently there are 23 valid oyster production licences with a further 48 new applications."

Intertidal Oyster Cultivation

Current Activity

"Current oyster cultivation within North Inishowen Coast SAC is a form of intensive culture with oyster seed cultivated using the bag and trestle method within the intertidal zone, either to half-grown or fully-grown size. The bag and trestle method uses steel table-like structures which rise from the shore to just above knee height on the middle to lower intertidal zone, arrayed in double rows with wide gaps between the paired rows to allow for access. Trestles used are made from steel and typically between 3 in length, are approximately 1 metre in width and stand between 0.5 and 0.7 metre in height. In general, oyster farms are positioned between mean Low Water Spring and mean Low Water Neap, allowing on average between 2 and 5 hours exposure depending on location, tidal and weather conditions. The trestles hold typically hold six HDPE mesh bags approximately 1m by 0.5m by 10cm, using rubber and wire clips to close the mesh bags and to fasten them to the trestles. The production cycle begins in North Inishowen Coast SAC when G4 to G8 (6 – 10mm, respectively) oyster seed is brought to the service site either in spring or late summer of each year. Oyster bags vary in mesh size (4mm, 6mm, 9mm and 14 mm) depending on oyster stock grade. For example 6mm seed is put into 4mm mesh bags at a ratio of 1000 to 1500 seed per bag. Both Diploid and Triploid oysters are grown in Trawbreaga Bay. Though the majority of producers are now moving into triploid production of all their stock as it appears to perform well in the area.

The oyster seed is bought in from oyster nurseries in France or the UK and include;

- GrainOceanFrance Turbot
- Satmar
- France Nissian

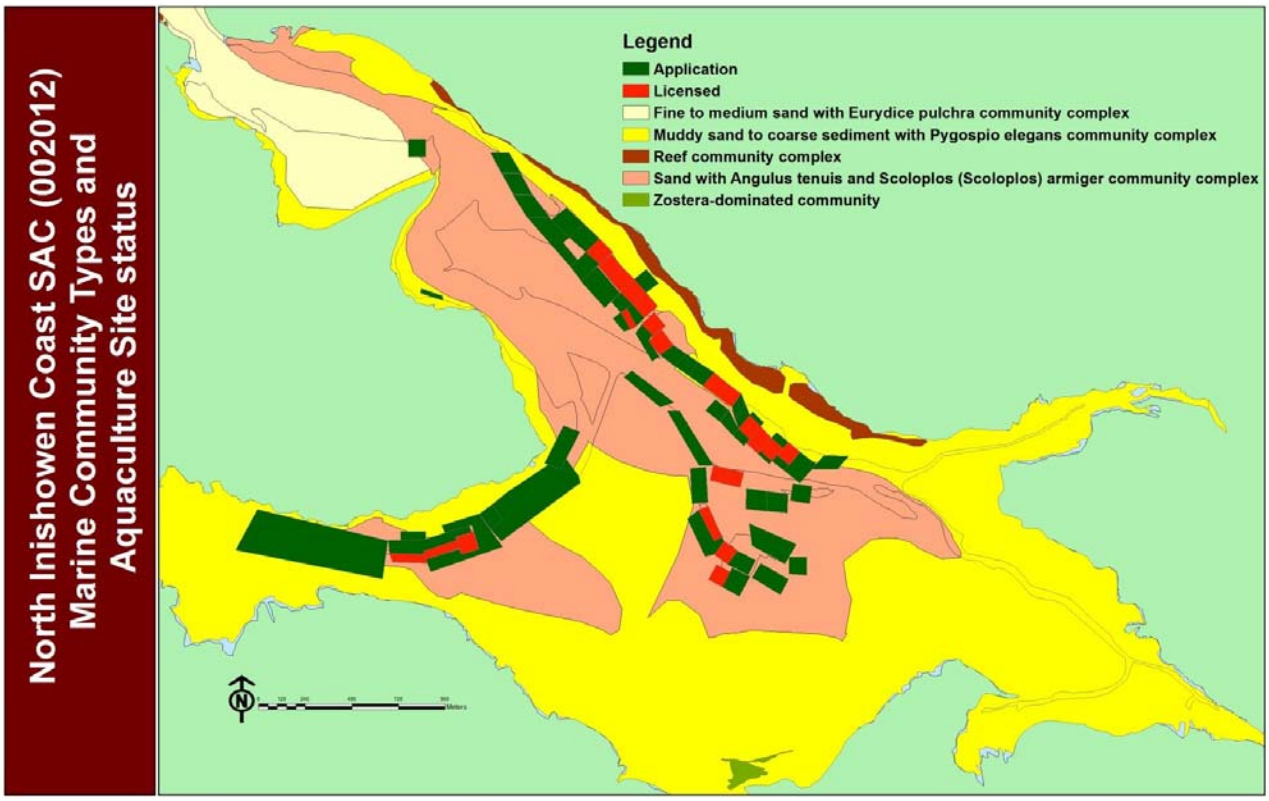


Figure 5. Aquaculture sites (licenced and applications) at Trawbreaga Bay relative to principal marine community types recorded within the marine Annex I qualifying interest

of Mudflats and sandflats not covered by seawater at low tide (1140) of North Inishowen Coast SAC (NPWS 2014c).

"Oysters are thinned out and graded as the oysters grow. As the oysters grow, they will be taken to the handling / sorting facility twice per year for grading and re-packing, and returned to the trestles. In the final stage they will be 'hardened' in the upper intertidal area, before removal, grading, bagging and delivery. Time to harvest, depending on intake size, ranges from 2.5 to 4 years, where they will have reached 60 or 80 to the kilo. At reaching market size oysters are in bags of about 120. Some farmers also take in half grown hatchery produced oysters (from Dungloe, Co. Donegal) and grow under contract for local farmers in the area.

There are three main pacific oyster production areas within Trawbreaga Bay; the North and South of the bay, with one producer farming in the West of the bay. Farms on the intertidal area are typically accessed during spring tides (at low tide) using vans or tractors. Preparatory work is always conducted in the service areas in the intervening periods, including grading and packing, preparation of bags and trestles and general maintenance work which includes shaking and turning of bags, and hand removal of fouling and seaweed to ensure maintenance of water flow through the bags when submerged. In the North of the Bay, eight of the producers observe one access route from the shore to their farm area, with a maximum of five tractors active in the area at any one time. In the south of the Bay six active producers observe access growing areas using one dedicated access route from the shore. At any one time depending on times of grading and selling stock there can be up to three tractors and trailers operating across the area. In the west of the bay one producer uses a dedicated access route to the farm. This access route is a public road.

Proposed Oyster Cultivation Activity
New (oyster) applicants, have indicated their source of seed will be from hatcheries currently used by existing farms within the Bay. All new applicants are to use bag and trestles (intensive) as the method of cultivating their oysters. There will be both diploid and triploid (if available) seed used on site. All new proposed cultivation sites are located within the existing licenced areas and will be serviced using existing access routes (see Section 5.1.1.4 and Figure 6 below).

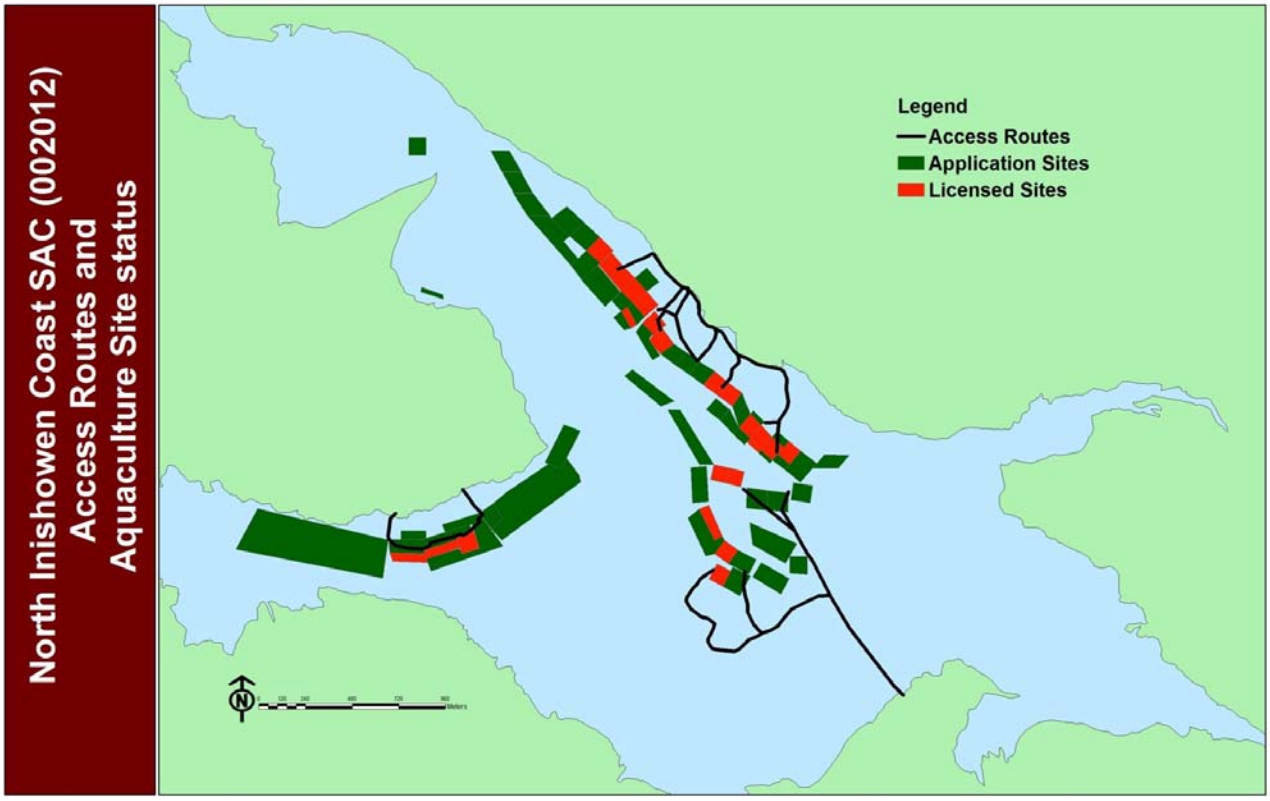


Figure 6. Access routes to aquaculture sites.

Access Routes

There are a number of access routes in Trawbreaga (Figure 6) used to access each of the main growing areas. Tractors and trailers will be used, for all sites within the SAC. Calculation of area of access routes in the SAC is linear length (in metres) by a putative route width of 10m, which is considered a sufficiently precautionary estimate. The spatial coverage of access routes is presented in Table 1.

Licenced Sites

GIS shapefiles for the status of all licenced sites within Trawbreaga Bay were acquired from DAFM and are shown in Figure 6. Based on these data, the licence reference, holder and hectares occupied by each licence are seen in Table 1. The most up to date licencing status for the site is seen in Figure 8[3]. The location of the appeal sites in relation to the other sites within the Bay are seen in Figure 9. Owners of each of the sites is seen in Figure 10. It should be noted that the Appeal site (T12/540A) is the only site where the Applicant is also the licence holder for the interior sites, to the upper shore.

3 https://www.agriculture.gov.ie/media/migration/seafood/aquacultureforeshoremanagement/aquaculturelicensing/aquacultureforeshorelicenceapplications/donegal/shareddocuments/NorthInishowenCoastTrawbreagaBaySiteMap050517.pdf

Figure 7. Aquaculture licence sites and appeal numbers in Trawbreaga Bay (All Oyster).

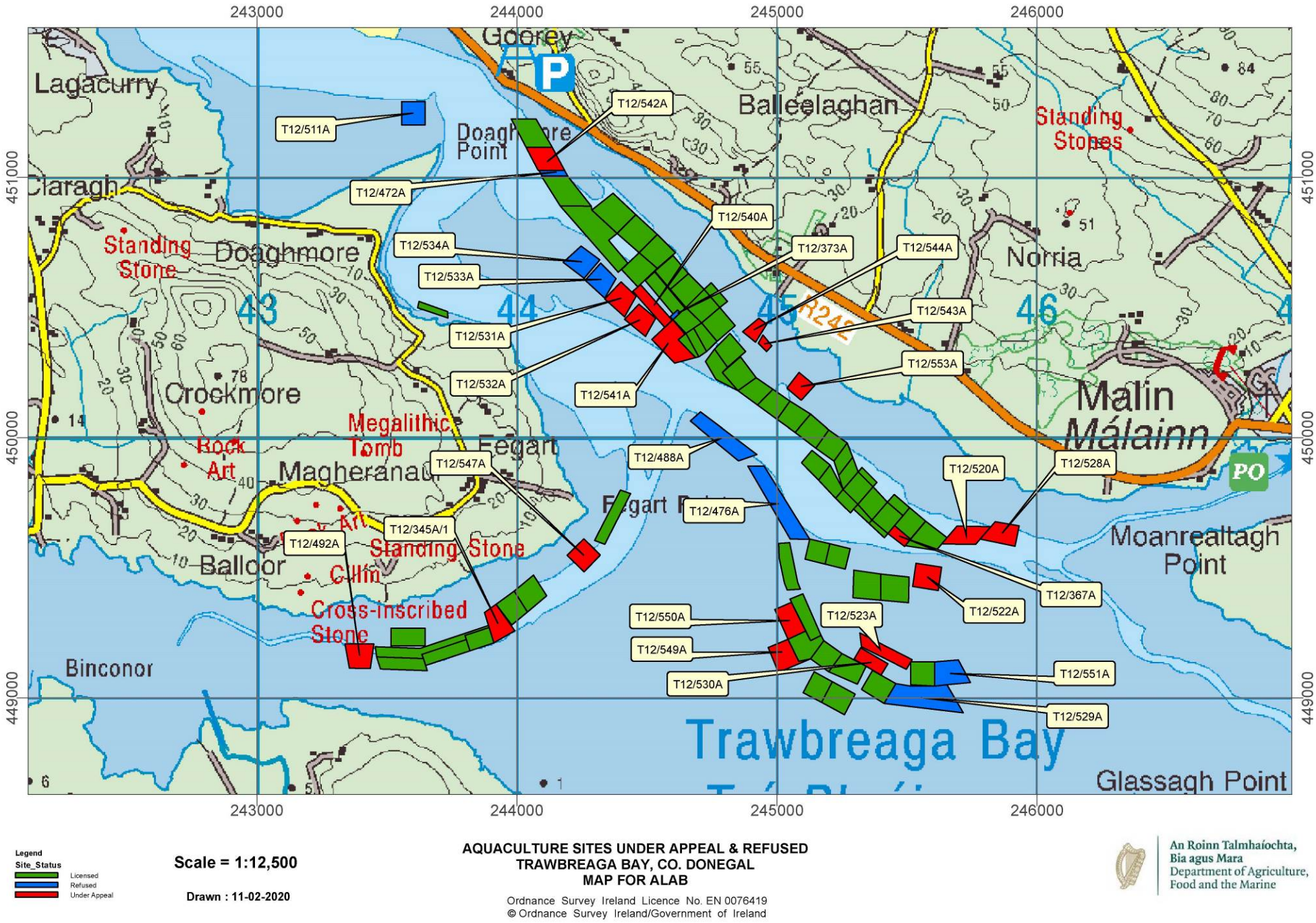


Figure 8. Map of Aquaculture Licences in Trawbrega Bay (2020) (Source DAFM)

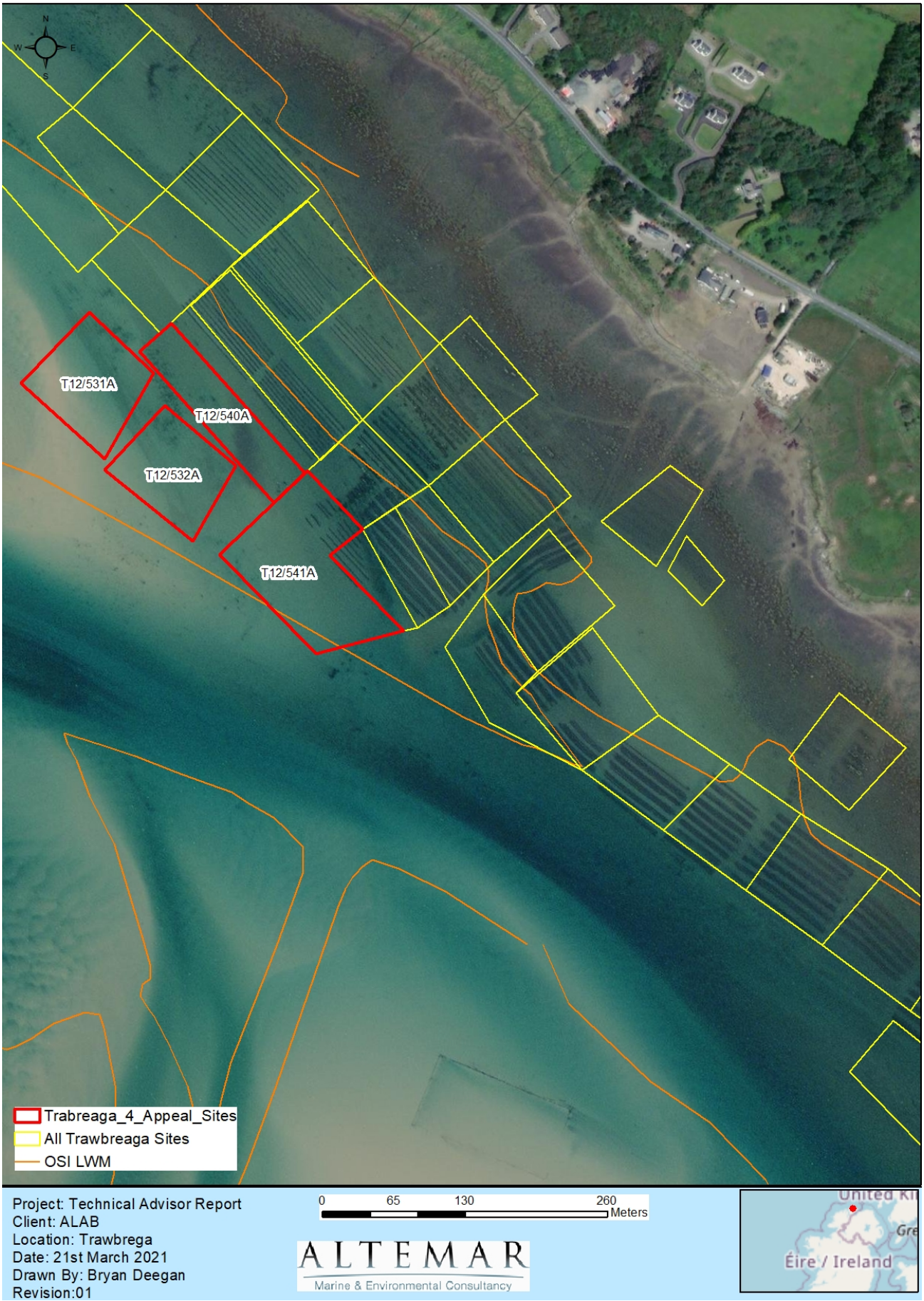


Figure 9. Four appeal sites and LWM (based on 6" mapping circa 1800's).

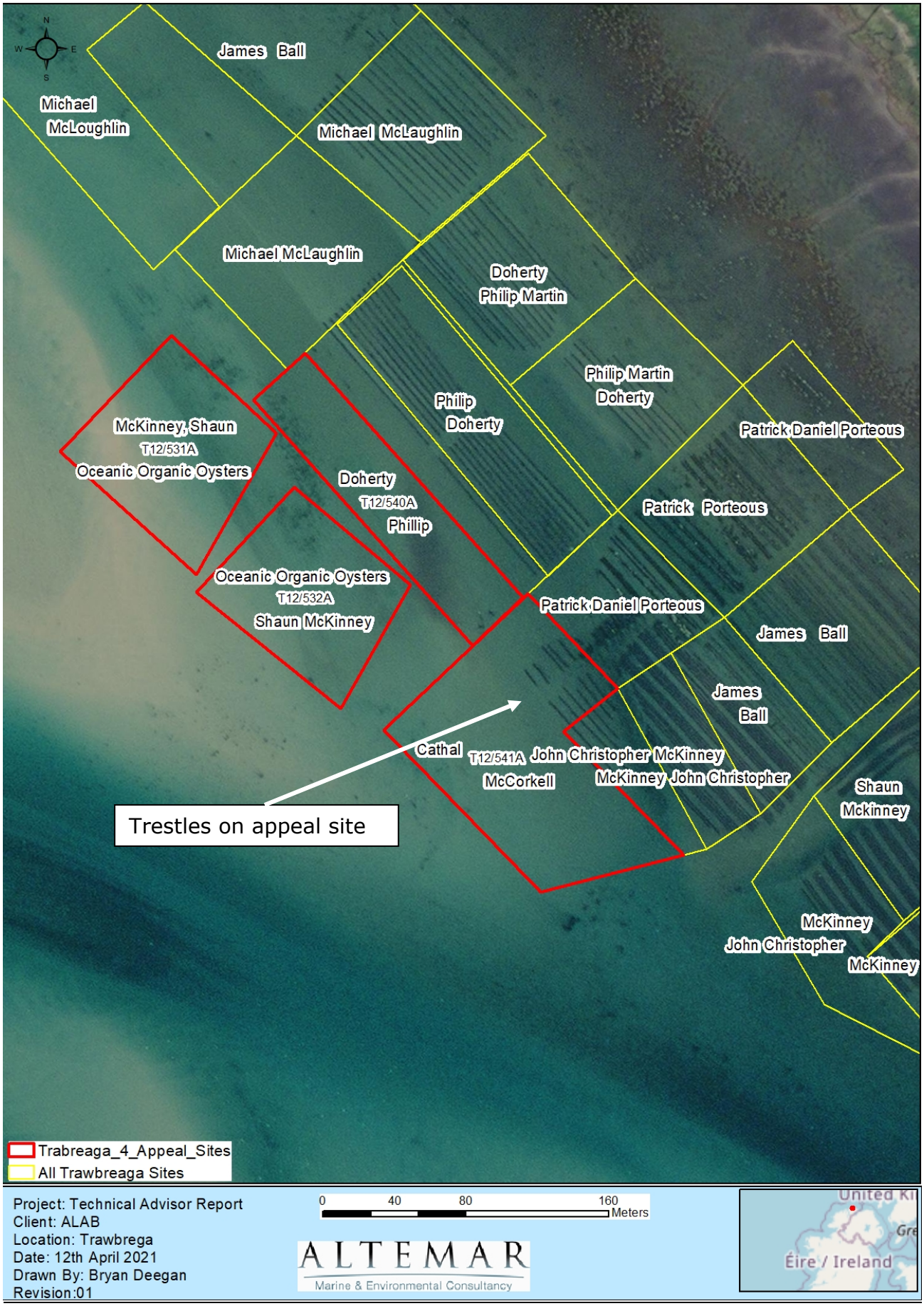


Figure 10. Four appeal sites, site owners and trestles in the appeal site.

Angling Activity

As outlined by Inland Fisheries Ireland[4] "*As the R242 road swings back east from the beach towards Malin village it runs along the Northern Shore of Trawbrega Bay (C) where lugworm casts will be found on the banks of the estuary channel. Trench digging is most productive just to the south of the road bridge at Malin, where worms are plentiful but the foreshore is very muddy. From the town of Carndonagh the R238 runs north west parallel to the southern shore of Trawbrega Bay and as it bears south, about 3kms before Ballyliffin, a small road runs north to Doagh Island (11) which affords easy access to the southern side of the main channel leading to Trawbrega Bay. From the channel banks, on a flooding tide, free lined sandeel or spinning with plugs, will yield sea trout in summer and occasional bass in autumn. Bottom fishing at high tide with crab or worm baits will produce freshwater eels, flounder and dogfish.*"

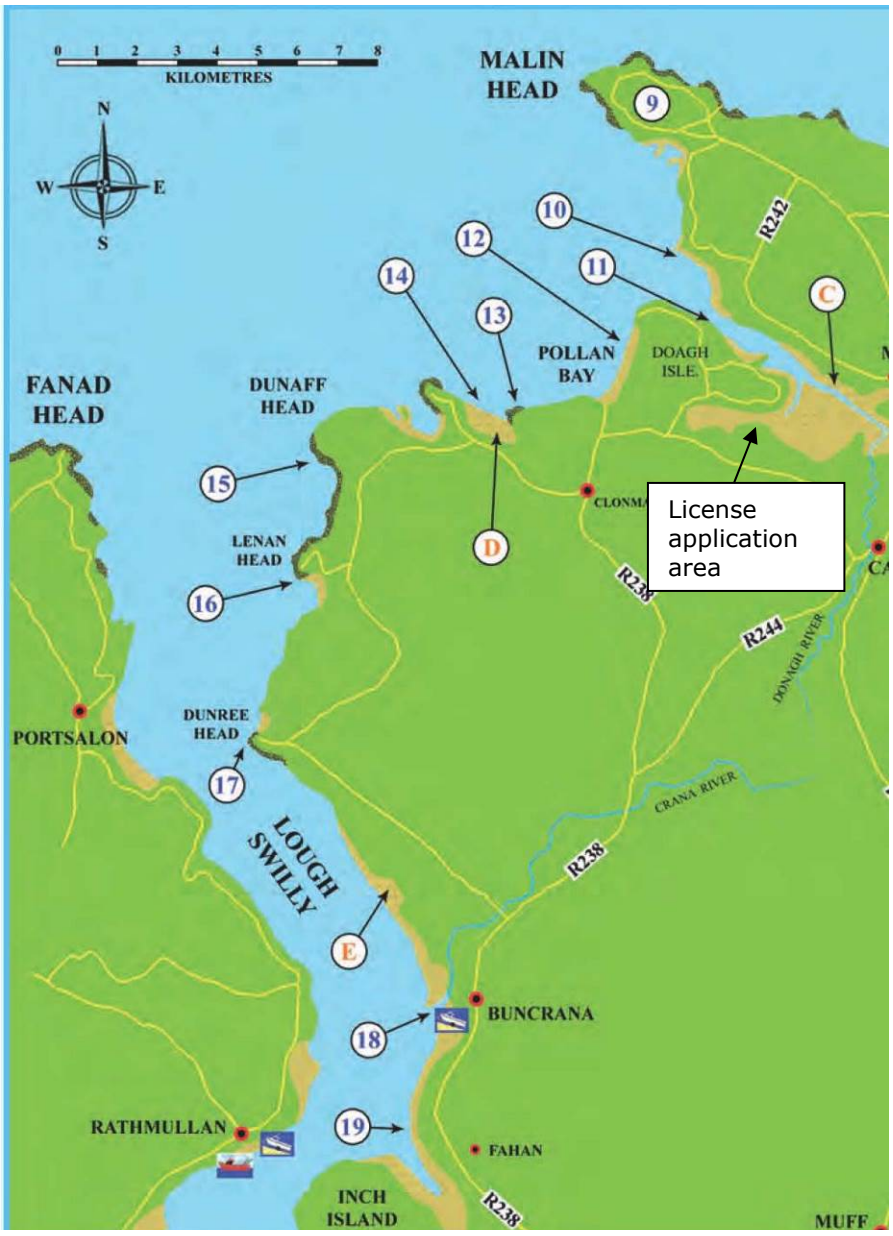


Figure 11. Angling Activities

Based on the data in the Inland Fisheries Ireland Quantification of the Freshwater Salmon Habitat Asset in Ireland report[5] three of the rivers within Trawbreaga Bay are characterised as Atlantic salmon (*Salmo salar*) rivers. (Figures 12 & 13).

[4] https://www.fisheriesireland.ie/extranet/angling-1/sea-angling/48-a-guide-to-sea-angling-in-the-donegal-region-1/file.html

[5] McGinnity, P.,Gargan, P.,Roche, W., Mills, P. & McGarrigle, M. 2003. Quantification of the Freshwater Salmon Habitat Asset in Ireland using data interpreted in a GIS platform. Irish Freshwater Fisheries, Ecology and Management Series: Number 3, Central Fisheries Board, Dublin, Ireland.

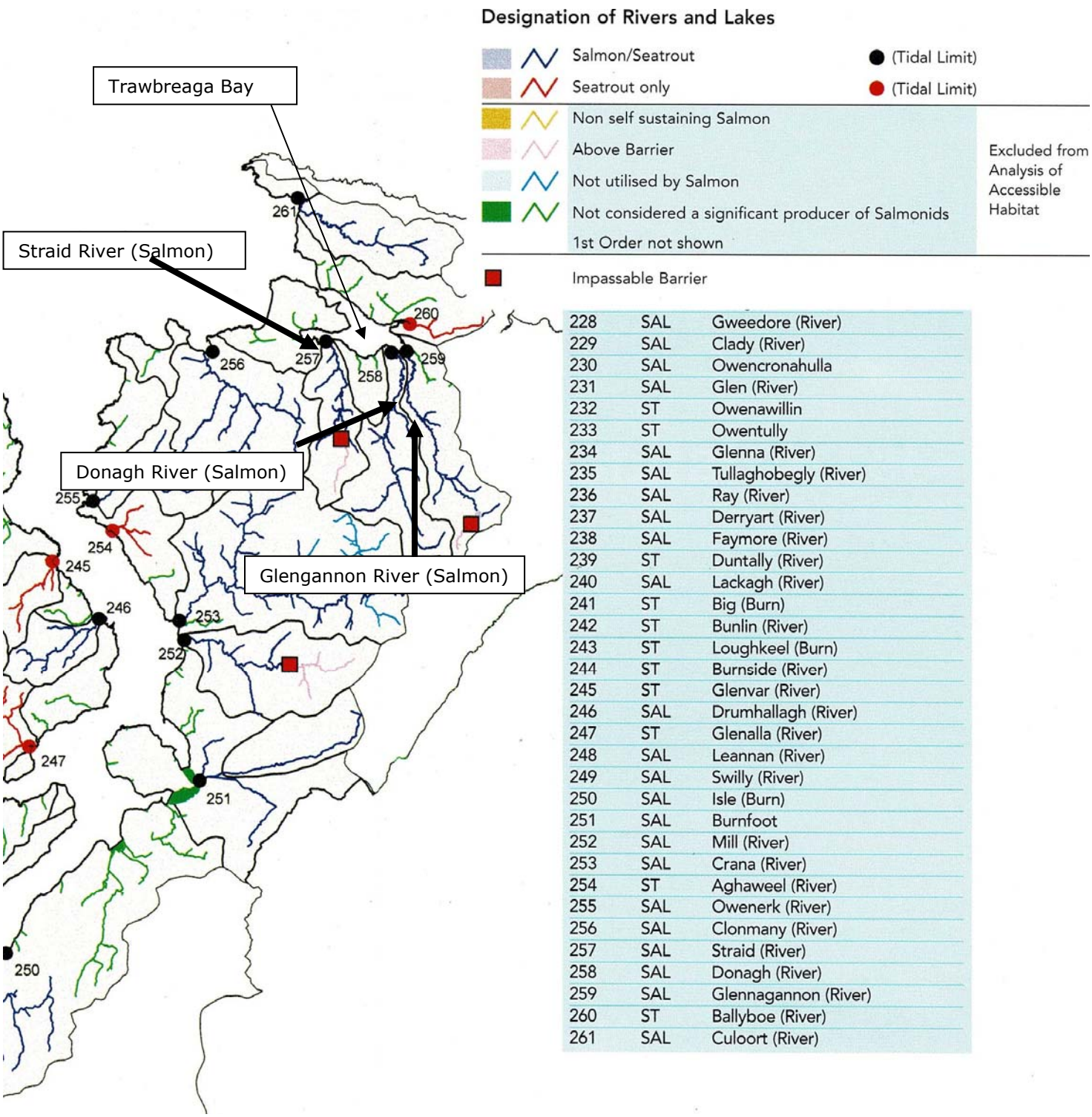


Figure 12. Atlantic salmon and seatrout rivers.

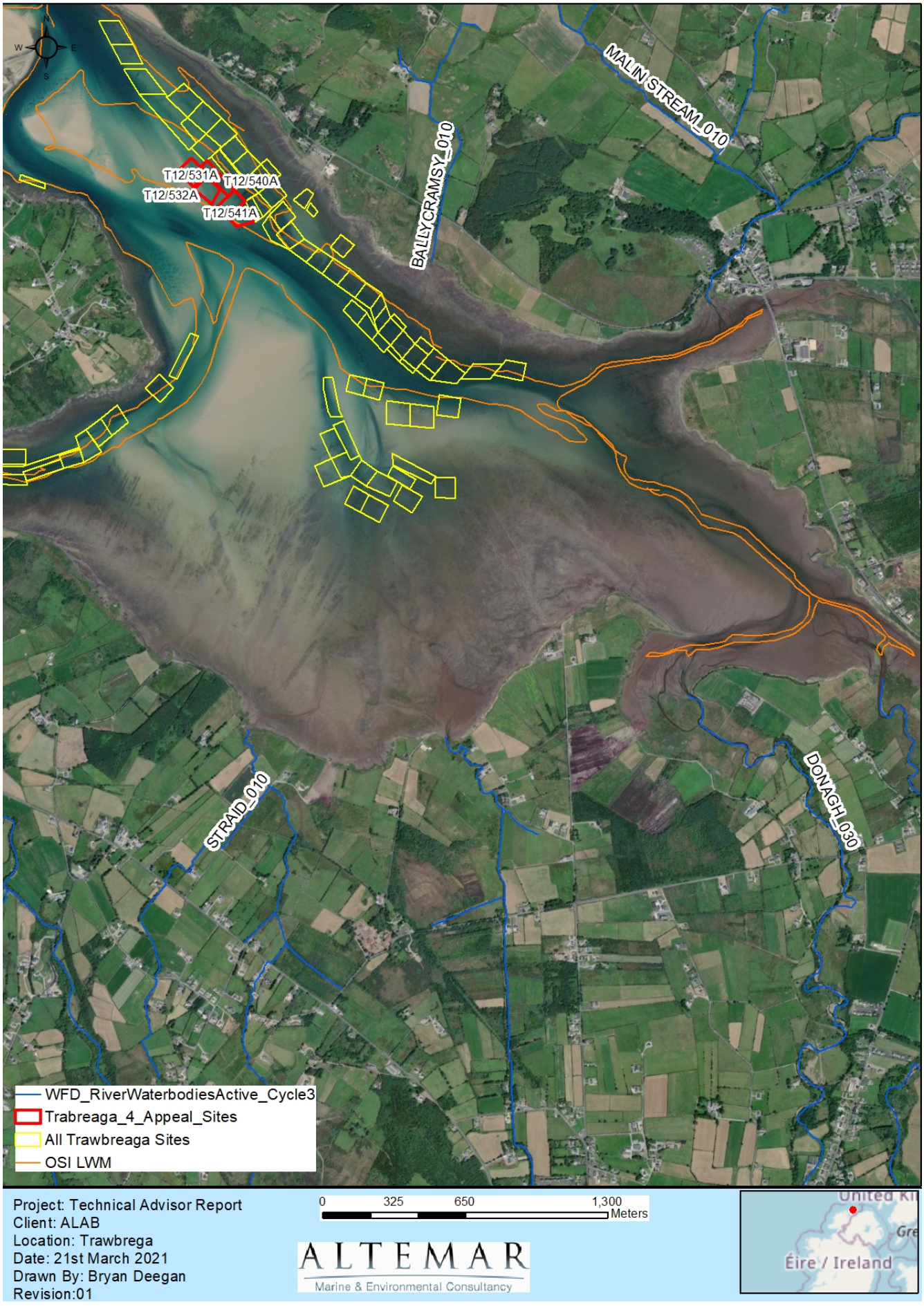


Figure 13. Location of the proposed aquaculture sites in relation low water channels.

It is important to note that in relation to the Straid River that in (CFB, 2003)(Figure 12) it is classed as a salmon river while in the Report on the Development of the NASCO Database of Irish Salmon Rivers-Report on Progress[6] the NASCO category of the river is "Lost" due to "Agricultural Enrichment". However, the Donagh River and Glennagannon River are "Not Threatened with loss". Pressures seen on the Donagh River are due to "inadequate sewage treatment" and "industrial discharges" while pressures on the Glennagannon River "Drainage / channel modification" and "Agricultural enrichment."

As outlined in the Inland Fisheries Ireland consultation within the Ministerial Files (All 4 sites) "*This site is located in close proximity to the main channel and the applicant should take all necessary measures to ensure that the development will not interfere with the passage of migrating salmon and sea trout. This site should be clearly marked with navigational marks to prevent any navigational hazard. The applicant should confirm that only triploid oysters are intended for use on site. Should this application to cultivate Gigas Oysters using bags and trestles be sanctioned it would be essential that proper biosecurity protocols are followed during the operations of the farm to ensure no diseases or non-native species are introduced or spread elsewhere from the facility.*"

Tourism

The main tourism attractions outside of the local population areas are seen in Figure 14. The aquaculture site is not on the Wild Atlantic Way (Carandonagh is the nearest location through which it goes). There are no significant tourism attractions in the vicinity of the proposed Aquaculture site. Based on The Donegal Local Economic & Community Plan 2016-2022[7] "*The number of tourists visiting Donegal is consistently on the increase. In 2013, 199,000 overseas visitors came to Donegal, increasing by 14.3% since 2012. Of the visitors in 2013, €78,000 were from Britain, 70,000 from mainland Europe, 37,000 from North America and 14,000 from other locations. Overseas visitors were worth €48m to the local economy. The counties domestic visitors were also up from 245,000 (2012) to 260,000 (2013). The domestic tourism market was worth €64million. There are a number of factors driving this event including the establishment and promotion of the Wild Atlantic Way, along which there are a number of signature points like Slieve League, Fanad Head & Malin Head and discovery points including; spell binding islands breathtaking blue flag beaches, world class golf courses, community forests and picnic areas, and historical landmarks etc.*"

[6] http://www.nasco.int/pdf/2005%20papers/CNL(05)45.pdf

[7] https://www.donegalcoco.ie/media/donegalcountyc/community/lcdc/App%201%20to%20LECP%20%20The%20Profile%20of%20the%20County%20February%202016.pdf

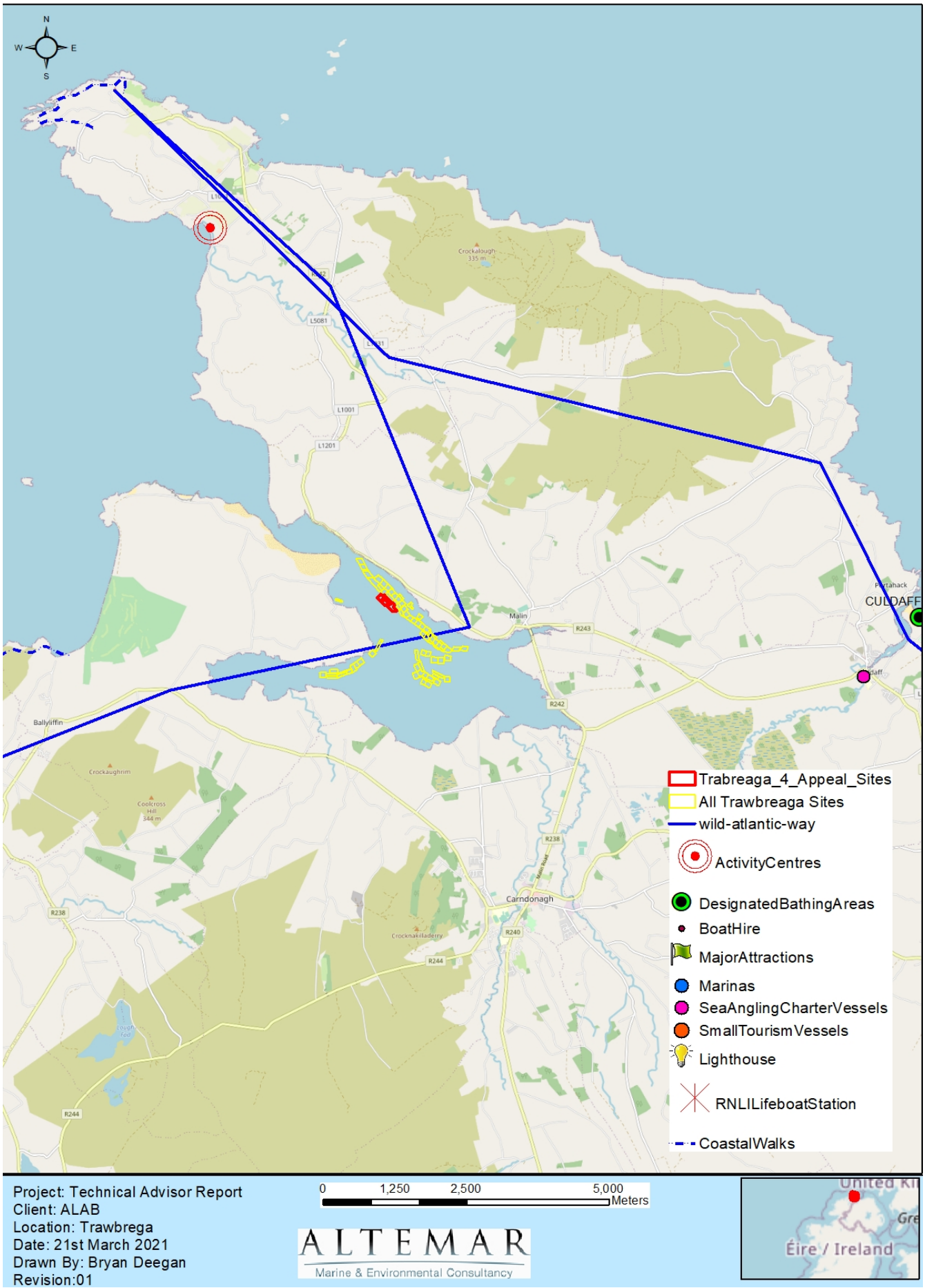


Figure 14. Tourism Attractions in the vicinity of Trawbreaga Bay.

Agricultural Activity

As outlined in the Characterisation Report (Trawbreaga Shellfish Area, Co. Donegal)[8] "Approximately 40% of the area of this catchment is farmed land. However, the estimates of livestock densities and fertiliser usage in this catchment 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, highlights areas of diffuse risk in this catchment. Also, the prevalence of peat and other 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 2 "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 chemicals to the water environment." As can be seen from Table 2 the fertiliser loadings in the catchment are well below the National average.

Table 2. Estimate of the average number of dairy and drystock livestock units and the average loadings of nitrogen and phosphorus in the catchment

Indicator	Catchment (per ha of farmed land)	National Average (per ha of farmed land)
Livestock units	0.60 LU	1.20 LU
Nitrogen fertiliser usage	63.11 kg	92.09 kg
Phosphorus fertiliser usage	5.97 kg	9.74kg

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

Forestry

"There is over 7 km^2 of forested land in this catchment and the percentage area under forest cover is lower than the national average. Unlike agriculture, the location of forestry activity is known and very little forestry activity occurs in close proximity to the shellfish area. The EPA's diffuse model risk assessment, which investigates the relationship between catchment attributes (percentages of diffuse land cover including forestry), water chemistry and ecological status highlights some diffuse risk areas. However, the more recent risk assessment, undertaken by the WFD Forest and Water study, does not highlight any areas of acidification, eutrophication and sedimentation risk. Monitoring does not indicate any water quality issues which are likely to be attributable to forestry and therefore, overall, forestry is unlikely to be affecting shellfish water quality in this shellfish area."

Inshore Fishing activity

Based on Marine Institute data the main activity within Trawbreaga Bay is oyster aquaculture with little additional inshore fishing activity (Figure 15). Based on these data the site overlaps with chartered angling. However, the entire bay is marked for this activity.

[8] https://www.housing.gov.ie/sites/default/files/publications/files/filedownload21897en.pdf

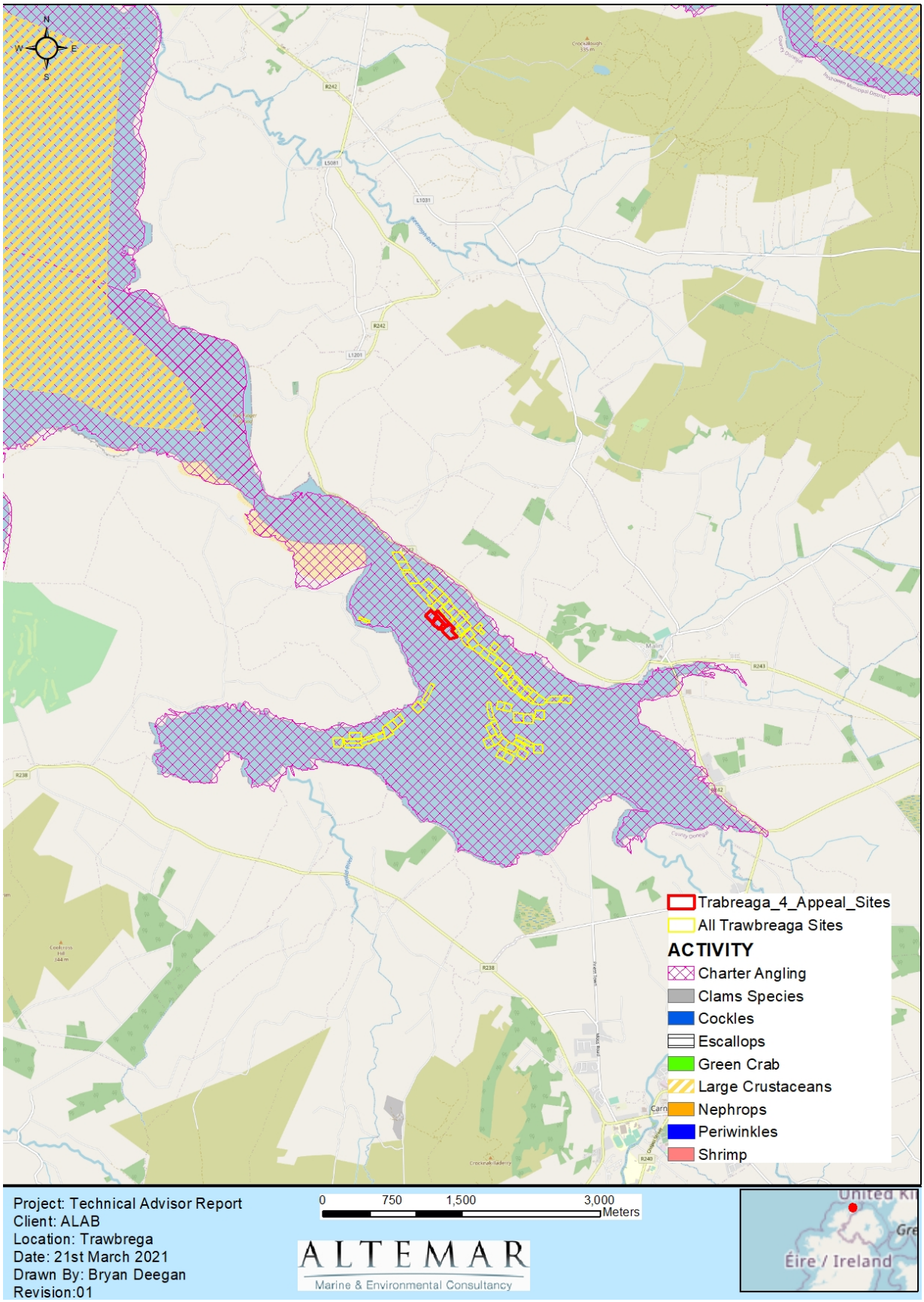


Figure 15. Inshore Fishing Activity in Trawbreaga Bay.

5.3 Environmental Data

Water Quality
Trawbreaga Bay is designated as Coastal Waters in the Waterframework Directive (WFD) classification. It is currently classed as unpolluted water quality status (Figure 16). However, of note several rivers entering into the Bay are classed as Poor and bad (Figure 16).

As outlined in the Revised / Updated Trawbreaga Bay Pollution Reduction Programme "The most up to date results of monitoring (2012) indicate that this area is in compliance with the Guide Value of 300 faecal coliforms / 100ml. However due to the previous indication it is prudent to continue with the actions outlined in this Pollution Reduction Programme."

"There are 1,527 on-site waste water treatment systems in this catchment and their density is higher than the national average. The characterisation report indicates that a smaller number are located within the coastal region of the catchment, which may have a direct impact on the shellfish area. The characterisation report also indicates that the hydrological condition of the majority of the catchment poses a risk to surface and groundwaters, the risk to surface and groundwaters from pathogens and phosphorus is high throughout the catchment as is the likelihood of inadequate percolation."

"The results of Shellfish Water monitoring do not indicate any water quality issues within/ in the vicinity of this shellfish area. Monitoring of shellfish flesh for food hygiene purposes (2012) indicates faecal contamination in this shellfish area. The bivalve mollusc production areas in Trawbreaga Bay are classified as 'Class B' for the purposes of EU Regulation 854/2004. However, the available shellfish samples at this shellfish area are all in compliance with the shellfish guideline value for faecal coliforms as indicated above."

The West Inishowen Water Management Unit Action Plan[9] states that the Pressures/Risks in the area include Nutrient sources "Over 88% of total phosphorus load is diffuse with agriculture accounting for 56%, forestry 16% and unsewered properties 7%. The main source of phosphorus load from point sources is from WWTPs (11%)."

The summary of the EPA waterbody data seen on the Catchments.ie website (2010-2015) is "Not at Risk".[10]

Based on Marine Institute Shellfish Safety data[11], Tra breaga Bay (DL-TB-TB) area. Of the 322 data results from September 2002 to January 2020 the site has remained open for shellfish production for the majority of time (262 results) with Closed Pending for 45 results and Closed 11 results. These closed results were all from 2012-2013 pending were based on failure of *Crassostrea gigas* (Whole) samples. The site has remained open since June 2018. These data indicate that the water quality in Trawbreaga Bay is good with few closures due to Marine Institute Safety inspection sampling.

[9] http://www.wfdireland.ie/docs/1_River%20Basin%20Management%20Plans%202009%20-%202015/NWIRBD%20RBMP%202010/Water%20Management%20Unit%20Action%20Plans/West%20Inishowen%20WMU%20Action%20Plan%20March%202010.pdf
[10] https://www.catchments.ie/data/#/waterbody/IE_NW_240_0000?_k=f6s0b7
[11] http://www.marine.ie/Home/site-area/data-services/interactive-maps/latest-shellfish-safety-data

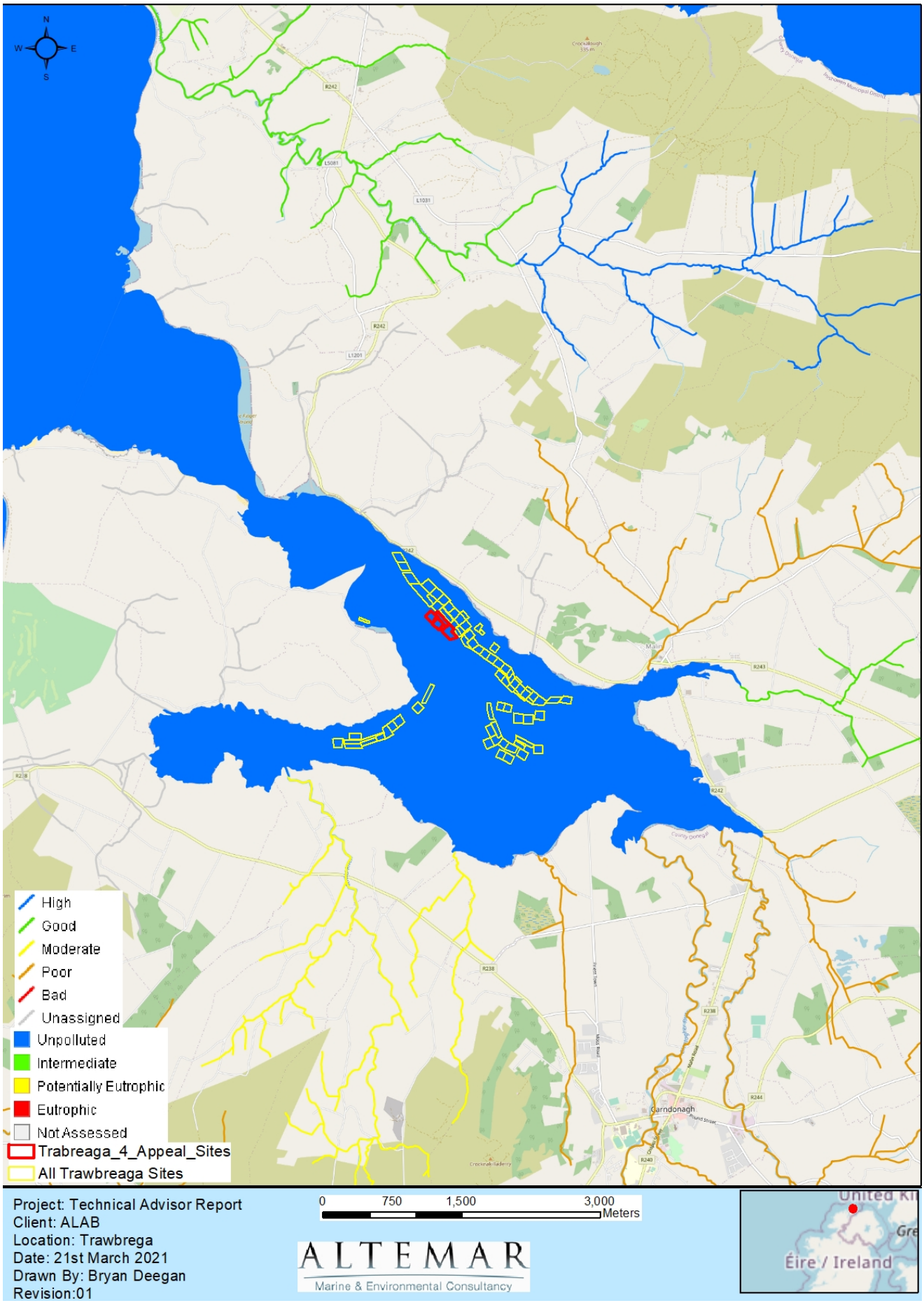


Figure 16. WFD Water quality status (Coastal (2010-2012) River (2013-2018)).

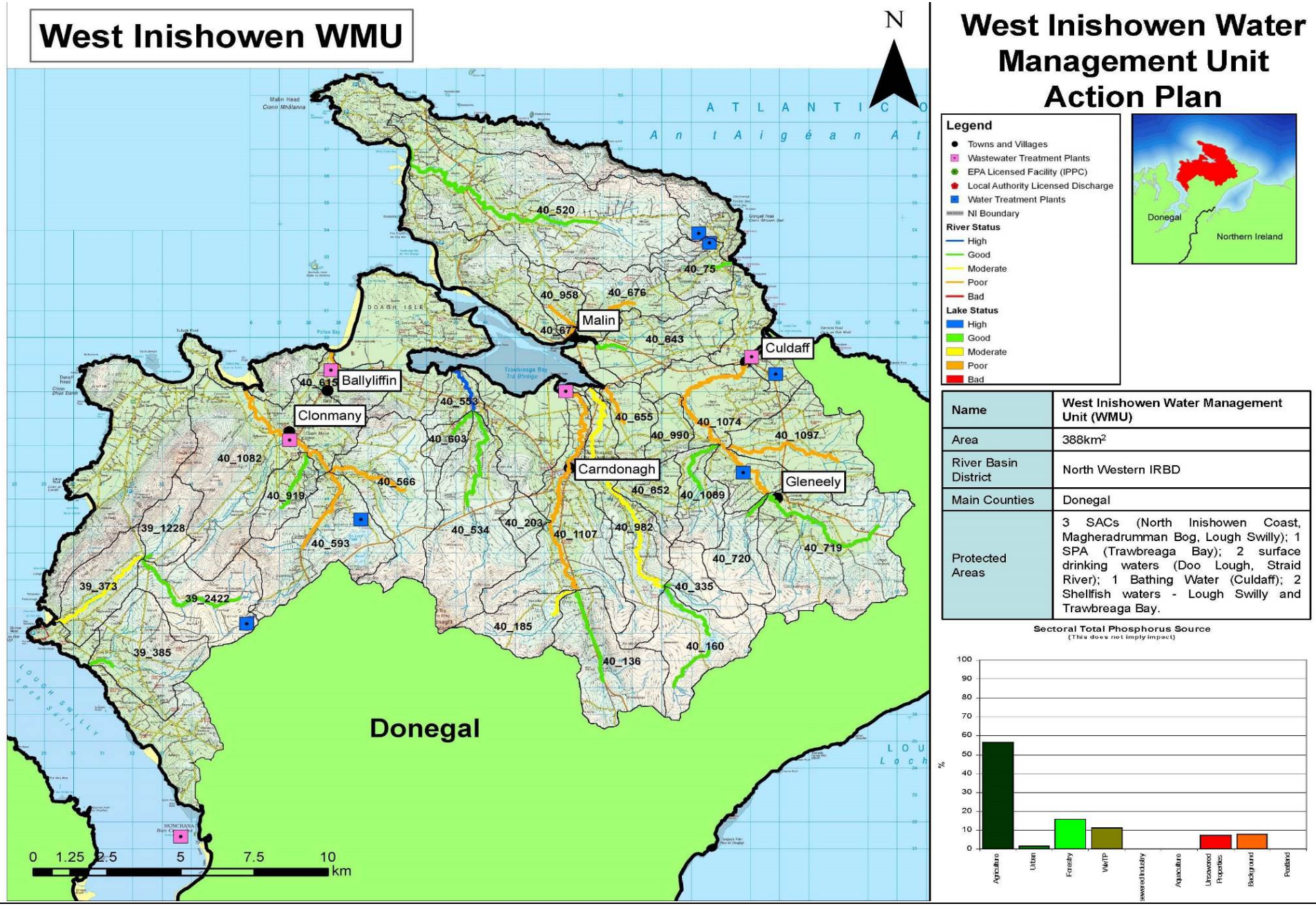


Figure 17. Trawbreaga Bay Management Unit Action Plan

5.4 Statutory Status

The location of the aquaculture site in relation to Special Areas of Conservation (SACs), Special Protection Areas (SPA's) and proposed Natural Heritage & Natural Heritage Areas are seen respectively in Figures 18, 19 and 20. The site synopsis of North Inishowen Coast SAC is seen in Appendix I.

The Features of interest for the North Inishowen Coast SAC are:

- Perennial vegetation of stony banks [1220]
- Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]
- Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]
- Machairs (* in Ireland) [21A0]
- European dry heaths [4030]
- Vertigo angustior (Narrow-mouthed Whorl Snail) [1014]
- Lutra lutra (Otter) [1355]

There is little site-specific conservation data (species or habitat) for the aquaculture sites. However, based on the Inishowen SAC Conservation Objectives document[12] the sites are located in a "Sand with *Angulus tenuis* and *Scoloplos (Scoloplos) armiger* community complex" (Figure 21). As outlined in the Marine Habitats supporting document[13] "In general the sediment of the complex is that of fine material (23.2% to 98.3% very fine to fine sand). However, there are some localised areas of coarser sediment; medium sand (35.4% to 63.6%) is recorded to the west of Malin and at Doaghmore while to the northwest of Glassagh Point the sediment is mixed (coarse to very coarse sand is 21.7% to 25.9% and gravel is 0.5% to 34.3%). The sand is somewhat mobile with extensive rippling being observed.
The distinguishing species of this community complex are the bivalve *Angulus tenuis*, the polychaetes *Scoloplos (Scoloplos) armiger*, *Spio martinensis* and *Pygospio elegans*. These species occur in low abundances and are not uniformly distributed.

Within Trawbreaga Bay, the bivalve *Cerastoderma edule* and the polychaete *Arenicola marina* are recorded in low abundances (1-5m^{-2} and 1-2m^{-2}, respectively). On the north shore of the bay from Ballycramsy to Balleelaghan the polychaete *Lanice conchilega* is recorded in low abundances."

The Findings of the Marine Institute (2018) Report supporting Appropriate Assessment of Aquaculture in North Inishowen Coast SAC (Site code: 002012) findings state that "*In the North Inishowen Coast SAC there are 23 valid oyster production licences with a further 48 new applications. The likely interaction between aquaculture activity and conservation features (habitats and species) of the site was considered. An initial screening exercise resulted in a number of habitat features and species being excluded from further consideration. None of the aquaculture activities (existing and/or proposed) overlaps or likely interacts with the following features or species, and therefore these 5 habitats and 1 species were excluded from further consideration in the assessment:*

- *1220 Perennial vegetation of stony banks*
- *1230 Vegetated sea cliffs of the Atlantic and Baltic coasts*
- *2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)*

[12] https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002012.pdf
[13] https://www.npws.ie/sites/default/files/publications/pdf/North%20Inishowen%20Coast%20SAC%20(002012)%20Conservation%20objectives%20supporting%20document%20-%20Marine%20habitats%20[Version%201].pdf

- *21A0 Machairs (*priority habitat in Ireland)*
- *4030 European dry heaths*
- *1014 Narrow-mouthed Whorl Snail Vertigo angustior*

Of the four constituent community types recorded within the qualifying interest of Mudflats and sandflats not covered by seawater at low tide (1140) one was shown to have no overlap or likely interaction with aquaculture activities and were excluded from further analysis. This community type is:

- *Zostera-dominated community*

A full assessment was carried out on the likely interactions between current and proposed aquaculture operations and the feature Annex 1 habitat Mudflats and sandflats not covered by seawater at low tide (1140). The likely effects of existing and proposed aquaculture activities were considered in light of the sensitivity of the constituent communities of the Annex 1 habitat.

The appropriate assessment finds that existing and proposed aquaculture activities (in-combination with other non-aquaculture activities) do not pose a risk of significant disturbance to the conservation of the designated habitat feature of Mudflats and sandflats not covered by seawater at low tide (1140) or constituent community of Muddy sand to coarse sediment with Pygospio elegans community complex, Fine to medium sand with Eurydice pulchra community complex and Sand with Angulus tenuis and Scoloplos (Scoloplos) armiger community complex. However, in one instance (T12/492A), the risk of significant disturbance cannot be dismissed as the hydrodynamics of the inner part of the bay (and subsequently, the structure of the constituent community types) may be impacted by the scale and location of the proposed operation.

It is important that triploid oysters continue to be used in North Inishowen Coast SAC (Code: 2012) in order to minimise any risk to Lough Swilly SAC (Code: 2237).

It is recommended that there be strict adherence to the access routes identified and that density of culture structures within the sites be maintained at current levels. The movement of stock in and out of the North Inishowen Coast SAC should adhere to relevant fish health legislation and follow best practice guidelines (e.g. http://invasivespeciesireland.com/cops/aquaculture/).

Finally, the aquaculture activities do not present a barrier to migration and on the (freshwater) attributes for the Otter (Lutra lutra) and therefore, was excluded from further analysis."

As outlined in the Site Synopsis for Trawbreaga Bay Special Protection Area (Appendix III) "Trawbreaga Bay SPA, is of international importance for its Light-bellied Brent Goose population and also supports a nationally important population of Barnacle Goose. The regular occurrence of Barnacle Goose, Chough, Whooper Swan and Bar-tailed Godwit, which are listed on Annex I of the E.U. Birds Directive, is of note. Trawbreaga Bay is a Ramsar Convention site and part of the Trawbreaga Bay SPA is a Wildfowl Sanctuary."

As outlined in the Marine Institute (2018) Bird Studies Trawbreaga Bay Special Protection Area (4034) Appropriate Assessment of Aquaculture & Shellfisheries Assessment of aquaculture activities the assessment of aquaculture activities on the following species was carried out and concluded:

Chough

"*Overall, due to the proposed scale of oyster cultivation; the lack of any significant use of intertidal habitat by Chough; and the separation of proposed oyster cultivation from known foraging, roosting or nesting sites it is unlikely that the intertidal oyster would have a negative impact on Chough using Trawbreaga Bay SPA.*"

Barnacle Geese

"*In Ireland, Barnacle Geese (from the Greenland breeding population) is mainly recorded along the west and northwest coasts, at sites such as Trawbreaga Bay. In the case of Trawbreaga, the flock would appear to be closely linked with the wider Malin flock and should be considered as a single unit. The population trend for Barnacle Goose was calculated by NPWS using IWeBS data and is based on the change between the baseline period (mean 1995/96 to 1999/00) and recent counts (mean 2007/08 to 2009/10). A mean number of 645 individuals were recorded for the baseline period with a mean number of 1,421 recorded from the recent period. This represents a 120 percent increase in numbers at Trawbreaga Bay. The site conservation condition for Barnacle Goose at Trawbreaga Bay SPA has therefore been assessed as favourable based on the increasing population. Unlike Light-bellied Brent Geese, Barnacle Geese do not feed on intertidal habitats, but favour terrestrial grassland or saltmarsh. Placement of trestles will not therefore result in direct habitat loss. While there is evidence for intertidal roosting, observed flocks have been small and ample alternate intertidal habitat exists to accommodate such day-time roosting. The main potential for conflict is from access points where there may be increased activity close to feeding birds and / or from increased levels of activity on the shoreline; key areas noted include risk of disturbance to Barnacle Geese at Magheranaul / Strath; close to Malin and close to the Glassagh access point. The large aquaculture site close to Magheranaul / Strath (T12/492) is intended only as a nursery area for seed oyster; it will only be accessed three times in the year by a maximum of two workers and therefore, based on the level of activity proposed, it does not represent a significant source of disturbance. While the risk of negative impacts cannot be entirely discounted, geese are likely to habituate to repeated patterns of work at trestles on the intertidal close to foraging fields. That said, development of a clear Code of Practice is strongly recommended; as is close consultation with NPWS. Continuation of annual monitoring of Barnacle Geese is also recommended to identify and address any disturbance issues that might arise, with particular emphasis on areas around Magheranaul / Strath; Malin and Glassagh Point. In particular, any proposed intensification of activity at T12/492 would need to be reconsidered as part of this process.*"

Light-bellied Brent Geese

"*The hrota population of Light-bellied Brent Geese that over winter in Ireland and breed in the Canadian high Arctic have shown increases in population since the early 1990's (Boland and Crowe, 2012) with a peak population estimate of 39,000 in 2007 (Hall and Colhoun, 2007). The population has been calculated to be increasing at an annual rate of 5.1 percent overall (Boland and Crowe, 2012). The site population trend for Light-bellied Brent Goose at Trawbreaga Bay published by NPWS is calculated using IWeBS data and is based on the change between the baseline period (mean 1995/96 to 1999/00) and recent counts (mean 2007/08 to 2008/09). A mean number of 362 individuals were recorded for the baseline period with a mean number of 366 recorded from the recent period (2-yr mean 2007/2008 – 2008/2009).*

This represents a 1 percent increase in numbers at Trawbreaga Bay. As a result, the site conservation condition for Light-bellied Brent Goose at Trawbreaga Bay SPA has been assessed as favourable based on the increasing population.

Light-bellied Brent Geese were recorded in all but one subsite (0A441 – Malin) during the NPWS baseline waterbird surveys. Intertidal foraging was recorded them within five subsites overall: 0A438, 0A439, 0A440, 0A442 and 0A443 (NPWS, 2014a). Brent Geese were recorded most frequently in subsite 0A443 (Northwest) with geese present during all low tide counts. In addition this subsite held the highest mean number of Brent Geese across all low tide counts. The other two subsites where Brent Geese were consistently recorded across the low tide counts were 0A439 (Trawbreaga South) and 0A442 (North central); aquaculture sites are already in place in both 0A439 and 0A442. These two subsites also held high peak and mean numbers of Brent Geese.
Proposals for trestles are located in 0A438, 0A439, 0A442 and 0A443. Looking solely at area of subsites; areas of intertidal habitat / subsite; and area of intertidal habitat under aquaculture there is a potential for displacement of 0.34%, 2.83%, 2.4% and 0.55% in 0A438, 0A439, 0A442 and 0A443, respectively; a cumulative displacement of 6.1% of birds within the SPA. As noted, impacts that will cause displacement of 5% or more of the total SPA population of a nonbreeding SCI species (for each site) have been assessed as potentially having a significant negative impact and require detailed consideration in the context of species behaviour; relationship with aquaculture types; population trends etc. The current and proposed location of trestles with respect to Light-bellied Brent Geese behaviour and feeding ecology is discussed. The favourable conservation status of the species; large area of available suitable habitat; foraging opportunities provided by green algae on trestles and displacement of birds feeding in and around trestles during the course of routine maintenance all combine to determine how Light-bellied Brent Geese would be impacted by oyster cultivation. In reality displacement of birds is therefore likely to be much less than 6.1%. The risk of negative impacts cannot, however, be completely discounted. A clear Code of Practice; close consultation with NPWS and continuation of annual monitoring of Light-bellied Brent Geese is recommended to identify and address any disturbance issues that might arise."

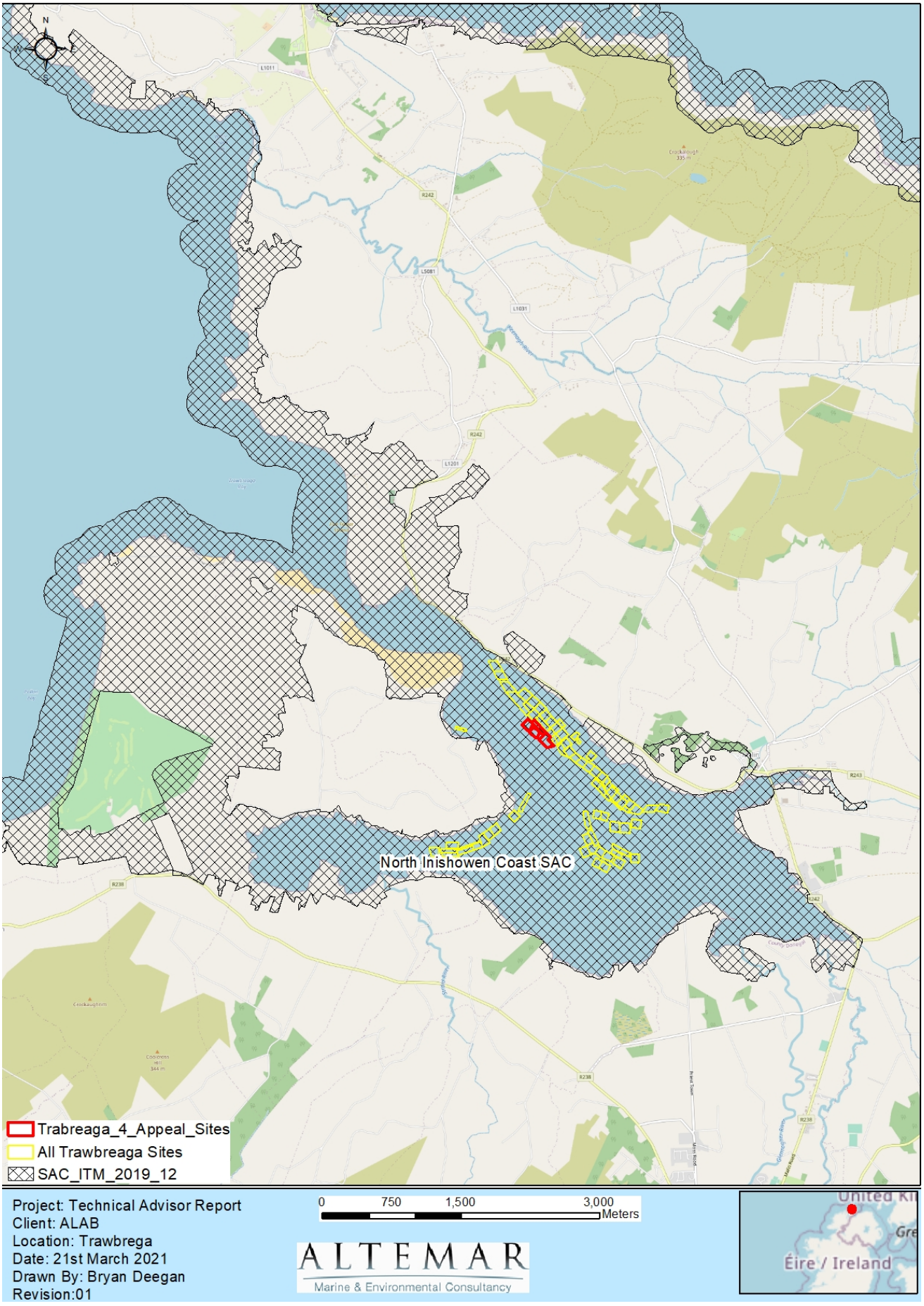


Figure 18. SAC's proximate to the aquaculture site.

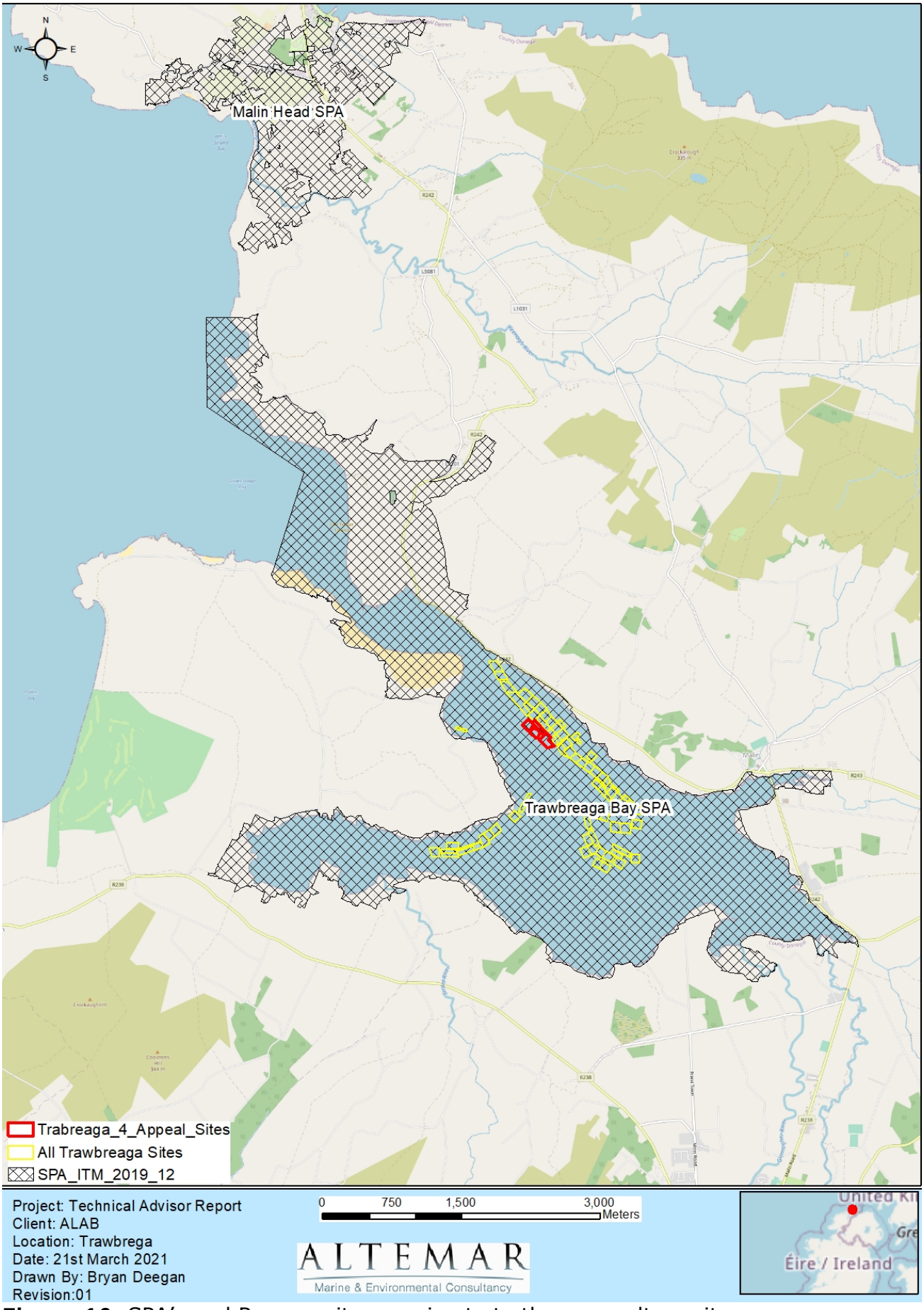


Figure 19. SPA's and Ramsar sites proximate to the aquaculture site.

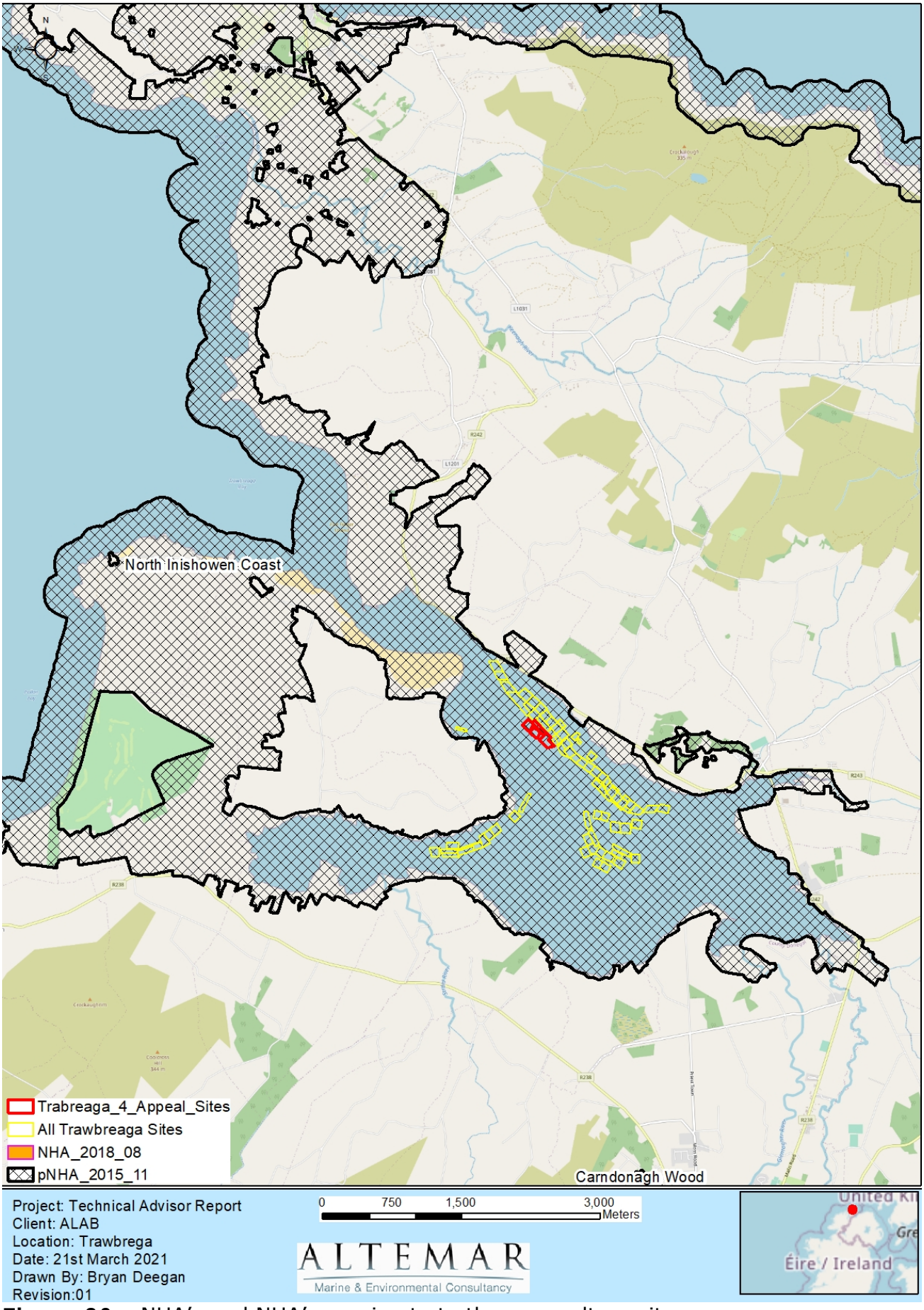


Figure 20. pNHA's and NHA's proximate to the aquaculture site.

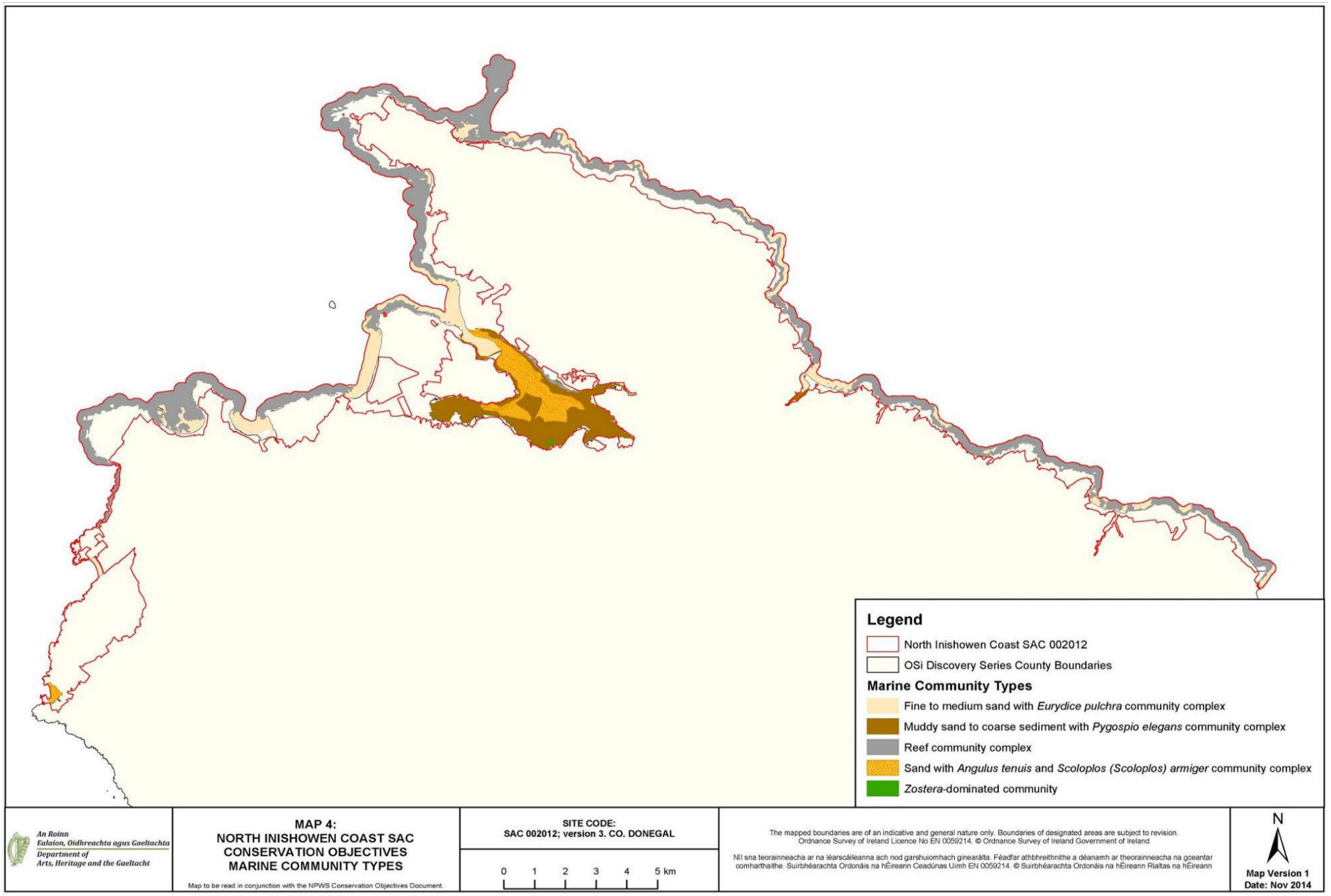


Figure 21. Marine Community Types in the North Inishowen SAC.

An aerial survey of harbour seals in Ireland from Lough Foyle to Galway Bay was carried out in August 2011 for the National Parks & Wildlife Service of the Department of Arts, Heritage and the Gaeltacht (DAHG)[14]. The report summarises the results from a survey of harbour seals (*Phoca vitulina*) in the north and north-west of Ireland but data was also collected on grey seals (*Halichoerus grypus*) was also presented. As noted in Figure 22 (from the report) between 2 and 5 seals were noted within the Bay. No cetacean sightings were reported to the IWDG sighting scheme[15] in the vicinity of the proposed aquaculture sites. However, there is a single sighting of a Common bottlenose dolphin (*Tursiops truncatus)* within Trawbreaga Bay (Figure 23).

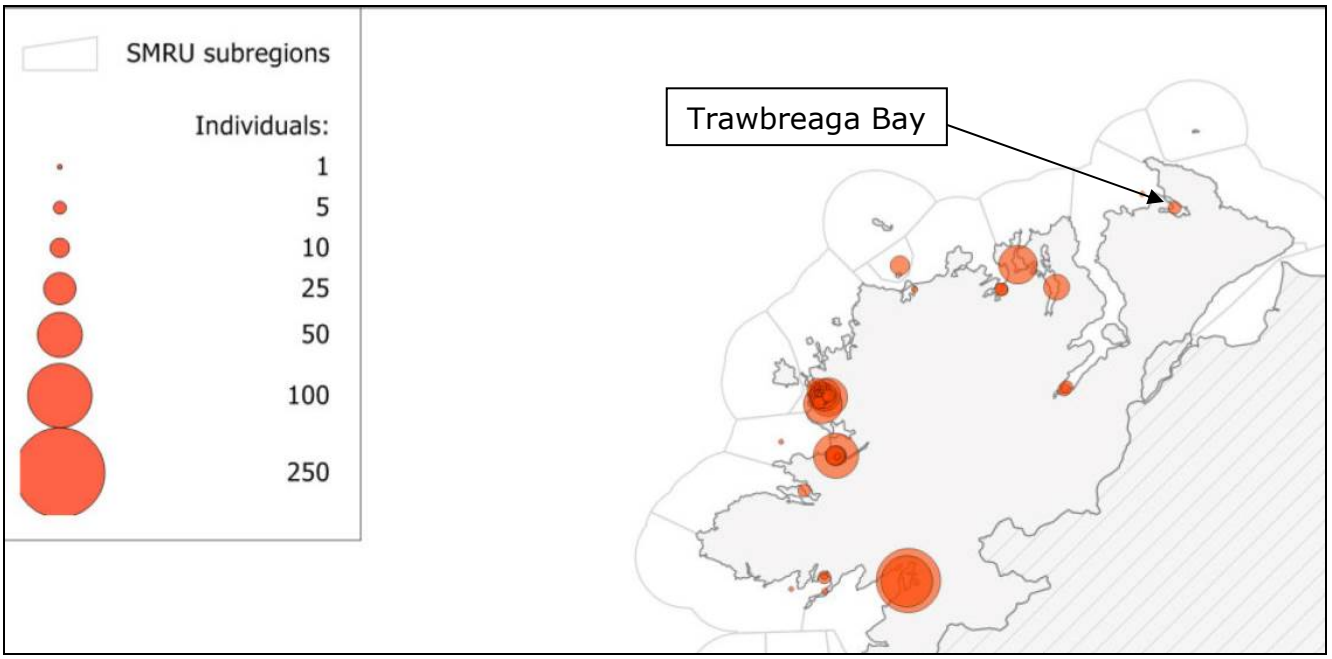


Figure 22. Habour seals noted within Trawbreaga Bay in 2011.

[14] Duck, C. & Morris, C. (2013) An aerial survey of harbour seals in Ireland: Part 1: Lough Foyle to Galway Bay. August 2011. Unpublished report to the National Parks & Wildlife Service, Department of Arts, Heritage & the Gaeltacht, Dublin.
[15] http://www.iwdg.ie/browsers/sightings.php

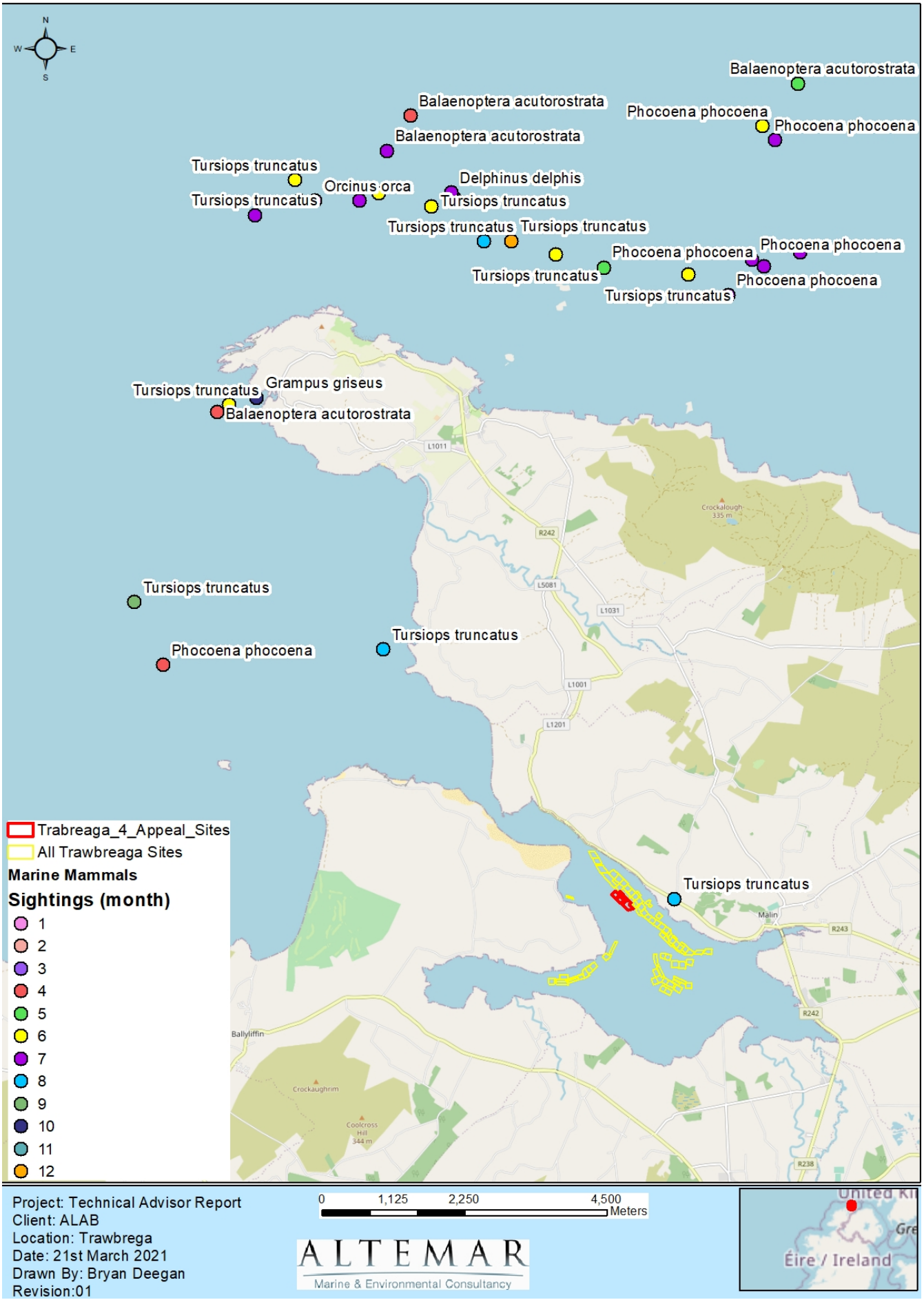


Figure 22. Cetacean Sightings in Trawbreaga Bay (IWDG Sightings Scheme)

Statutory Plans

County Donegal Development Plan, 2018-2024

The County Donegal Development Plan, 2018-2024[16] is the current development plan in place for Donegal. The County Donegal Development Plan is the principal statutory land use plan for the County and it sets out a strategic vision for the future growth and development of the County over the 6 year life of the Plan (to 2024) and beyond to a 20 year timeframe (to 2038). Relevant objectives and policies to the licencing of the aquaculture site are as follows:

Chapter 10 The Marine Resource and Coastal Management Objectives

MRCM-O-1: To maximise the social and economic potential of Donegal's marine sector by:

Supporting the fishing and seafood sector by maintaining and improving harbour infrastructure (in accordance with the Councils Marine Services Capital Investment Programme) and facilitating seafood processing industries and ancillary service developments.

- Consolidating and strengthening our Marine Leisure sector by, protecting the recreational and environmental quality of our coastal areas, maintaining and upgrading existing and providing new marine access infrastructure (in accordance with the Councils Marine Services Capital Investment Programme), facilitating ancillary onshore marine leisure developments, and marketing our marine tourism product.
- Facilitating developments which enable the sustainable harnessing of the offshore energy resource.
- Supporting the offshore primary production sector of the aquaculture industry, subject to adequate environmental assessments and safeguards being provided to the satisfaction of the Council and to the avoidance of the development giving rise to an overbearing visual impact on the locality in which it is proposed.

MRCM-O-3: To manage our coastal environment in a sustainable manner by:

- Avoiding new development in areas at risk from Coastal Flooding in line with the flooding policies of this Plan.
- Managing coastal change in a manner which accepts that coastal erosion/sea level rise is a natural and/or inevitable process and does not permit/provide coastal protection works; in areas subject to significant long term coastal erosion/change or sea level rise unless there is overriding reason of public interest to do (e.g. built up urban areas), where it would damage the visual, scenic or environmental amenities of the area or where it would have a significant impact on natural coastal geomorphological processes and systems.
- Managing development in a manner which protects sensitive coastal environments (e.g. dune environments) and undertaking coastal zone management projects.
- Ensuring that new marine infrastructure developments (e.g. pier, breakwaters) are located, sited and designed in a manner which has minimal impact on natural Coastal Geomorphological process.

Policy

[16] http://www.donegalcoco.ie/services/planning/developmentplansbuiltheritageincludinggrants/county%20donegal%20development%20plan%202018-2024/

MRCM-P-10: It is a policy of the Council to ensure that development proposals do not adversely compromise the recreational amenity and environmental quality of coastal areas including Flag Beaches, Natura 2000 sites and areas of Especially High Scenic Amenity.

Chapter 11 Community Culture and The Gaeltacht
Objectives
CCG-O7: To promote, protect, harness and sustainably develop the Culture of Donegal by inter alia:
Implementing the Capital Programme/Infrastructural Plan of the Cultural services strategy 2016-2020 and any subsequent related capital programme/infrastructural plan.

- Supporting the public arts programme of the Council.
- Engaging with local communities to harness the cultural and creative resource of the county.
- Promoting the cultural and creative sector as an integral part of a sustainable tourism sector including the cultural tourism product associated with the Wild Atlantic Way and cultural tourism products associated with the history, geography, folk traditions and language and musical tradition of Donegal.
- Recognising and protecting the landscape and built heritage of Donegal as key elements of our culture.
- Nurturing and harnessing the cultural and creative resource of the Donegal Islands.
- Engaging with the cultural and creative resource that of the worldwide Donegal Diaspora and Donegal's new communities.
- Promoting the artistic sector including: visual arts, performance arts, literature, and contemporary arts including the reuse and redevelopment of vacant and derelict buildings for the arts sector.

Scenic Amenity in the County Donegal Development Plan, 2018-2024
In the current Donegal County Development Plan the aquaculture site is proximate to Areas of Moderate Scenic Amenity (MSA) (Figure 23). As outlined in the development plan each of the scenic amenity areas are classed as follows.

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

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

Areas of Moderate Scenic Amenity (MSC)

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

Within each of the landscape classifications detailed above (EHSA, HSA and MSA) and along the interface between the designations there may be areas that do not fully meet the definition of the designation. Such anomalies in landscape designation shall be considered individually and in the context of all other objectives and policies contained within this Plan, should an application for development be submitted in these areas (excluding wind energy proposals or ancillary works). The onus shall be on the applicant to demonstrate that the site within which it is situated does not meet the characteristics of the landscape within which it is situated and that any development applied for shall not adversely affect the classification and value of the wider landscape."

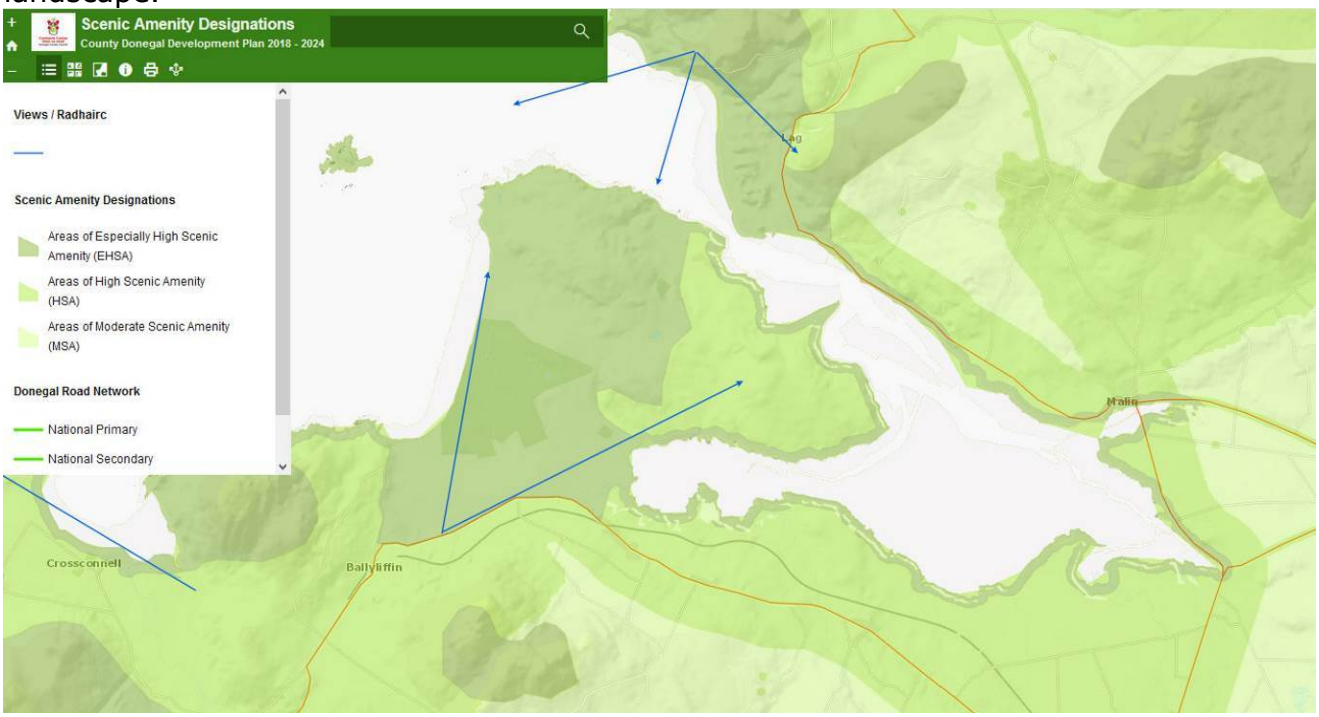


Figure 23. Scenic Amenity County Donegal Development Plan, 2018-2024.

Visual Impact

No concerns of the visual impact were noted in the statutory consultation in the Ministerial file.

5.5 Man-made heritage

The proposed aquaculture sites are in the intertidal. Details of National Monuments are seen in Figure 24. No National monuments are within of the aquaculture site or on main beach access to the site. However, National Monuments are located beside the existing access road to the beach. The proposed sites will not impact on National Monuments. A search of the National Wreck database (Informar) was carried out. No wrecks were noted in the vicinity of the aquaculture sites.

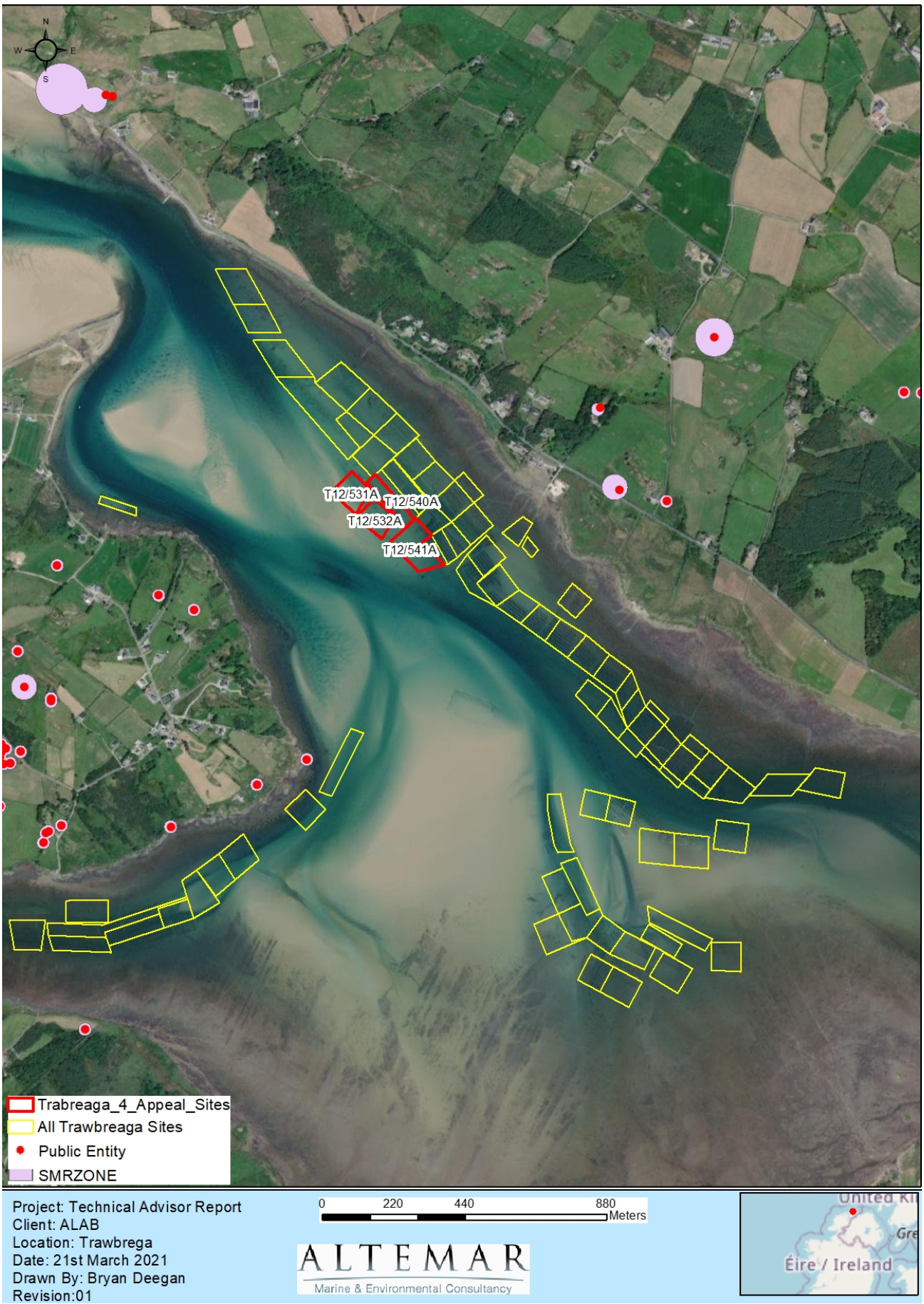


Figure 24. National Monuments in the vicinity of the appeal sites.

6.0 Screening for Environmental Impact Assessment.

Note on Environmental Impact Statement Requirements

S.I. No. 236/1998: AQUACULTURE (LICENCE APPLICATION) REGULATIONS, 1998

Environmental impact statement required for certain applications
5. (1) An application under section 10 of the Act for an aquaculture licence **in respect of seawater salmonid breeding installations shall be accompanied by an environmental impact statement**.

(2) In the case of an application other than one referred to in paragraph (1), the Minister may require the applicant to submit an environmental impact statement **if the Minister considers that the proposed aquaculture is likely to have significant effects on the environment.**

As outlined in Statutory Instruments S.I. No. 410 of 2012 (European Union (Environmental Impact Assessment (Aquaculture) Regulations 2012:

"In the case of an application other than one referred to in paragraph (1), the Minister may require the applicant to submit an environmental impact statement if the Minister considers that the proposed aquaculture is likely to have significant effects on the environment.
"(2) An environmental impact assessment shall be carried out by the Minister in respect of an application for- (a) aquaculture of a class specified in Regulation 5(1)(i) and (ii), unless the application is one which is solely for movement of navigation buoys, internal reconfiguration of the site, upgrading equipment used on the site, technology changes or improvements, or to comply with public safety requirements or a combination of these and which the Minister determines would not be likely to have significant effects on the environment, or
(b) aquaculture of a class specified in Regulation 5(1) (ii) which does not exceed a quantity, area or other limit specified in that Regulation which the Minister determines would be likely to have significant effects on the environment."

This applications for aquaculture licences is not for a "salmonid breeding installation" and the Minister has considered that it is deemed not to have a significant effect on the environment. Therefore, an Environmental Impact Statement in not required.

7.0 Screening For Appropriate Assessment

The aquaculture site is within North Inishowen Coast Special Area of Conservation and Trawbreaga Bay Special Protection Area. A Report supporting Appropriate Assessment of Aquaculture in North Inishowen Coast SAC (Site code: 002012) was prepared in July 2018 by the Marine Institute[17] and the proposed (not granted) aquaculture sites in question are shown in this report as "Application" sites. Therefore, the potential impacts of these sites have been addressed within the Appropriate Assessment. The Appropriate Assessment Concludes that:

"**Aquaculture**
In the North Inishowen Coast SAC oyster culture (using bags and trestles) is the only type of aquaculture currently occurring. Based upon this and the information provided in the aquaculture profiling carried out (Section 5 of the report), the likely interaction between this culture methodology and conservation features (habitats and species) of the site were considered.

Habitats
An initial screening exercise resulted in five features and one species being excluded from further consideration by virtue of the fact that no spatial overlap of the culture activities was expected to occur. The habitats excluded from further consideration were 1220 Perennial vegetation of stony banks, 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts, 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes), 21A0 Machairs, 4030 European dry heaths and 1014 Narrow-mouthed Whorl Snail *Vertigo angustior*. A full assessment was carried out on the likely interactions between existing and propped culture operations and the feature of the Annex 1 habitat 1140 (Mudflats and sandflats not covered by seawater at low tide). The likely effects of the aquaculture activities (Species, structures, transport routes) were considered in light of the sensitivity of three (of the four) constituent habitats and species of the Annex 1 habitat, i.e., Muddy sand to coarse sediment with *Pygospio elegans* community complex, Sand with *Angulus tenuis* and *Scoloplos (Scoloplos) armiger* community complex and Fine to medium sand with *Eurydice pulchra* community complex.

Based upon the scale of spatial overlap of current aquaculture activities and the relatively high tolerance levels of the habitats and associated species, the general conclusions is that current aquaculture activities are non-disturbing to the Natura 2000 feature (1140) and its constituent community types. Any disturbing activities occur at levels below the threshold value of 15% (see Table 8.4). No in-combination impacts are likely to occur. However, in one instance (T12/492A), the risk of significant disturbance cannot be dismissed as the hydrodynamics of the inner part of the bay (and subsequently, the structure of the constituent community types) may be impacted by the scale of the proposed operation."

"The risk of establishment of non-native oyster species is considered low in the Trawbreaga Bay portion of North Inishowen Coast SAC. However, given that Trawbreaga Bay (oyster culture area within the SAC) effectively flows into the broader Lough Swilly this presents a risk to the Lough Swilly SAC (Code: 2287) and the factors identified by Kochmann et al (2013) facilitating the successful establishment of populations has been identified for Lough Swilly and indeed, non-native oysters have

[17] https://www.agriculture.gov.ie/media/migration/seafood/aquaculturereforeshoremanagement/aquaculturelicensing/appropriateassessments/donegal/1NorthInishowenSACandTrawbreagaSPAAAJuly2019Report300719.pdf

established in this bay (Lough Swilly). Therefore, it is important that triploid oysters continue to be used in North Inishowen Coast SAC (Code: 2012) in order to minimise any risk to Lough Swilly SAC (Code: 2237).

It is recommended that there be strict adherence to the access routes identified and that density of culture structures within the sites be maintained at current levels. The movement of stock in and out of the North Inishowen Coast SAC should adhere to relevant fish health legislation and follow best practice guidelines (e.g. http://invasivespeciesireland.com/cops/aquaculture/).

Species

The likely interactions between the proposed aquaculture activities and the Annex II Species Otter were also assessed. The objectives for this species in the SAC focus upon maintaining the good conservation status of the population. The main aspect of the culture activities that could potentially impact otter is the physical presence of trestles that may restrict otter access to certain habitats. Given the nature of the structures and the likely timing of activities the risk of disturbance to otter features posed by aquaculture operations is considered low."

In the Appropriate Assessment Conclusion Statement by Licensing Authority for aquaculture activities in North Inishowen Coast Special Area of Conservation (SAC) (002012), and Trawbreaga Bay Special Protection Areas (SPA) (004034) (Natura 2000 sites) it was stated in the findings sand recommendations that:

"North Inishowen Coast SAC

- Existing and proposed cultivation and access route activity was shown to overlap with 5.88% of the qualifying interest 'Mudflats and sandflats not covered by seawater at low tide' (1140). As this value is below the 15% overlap threshold adverse impact on the qualifying feature can be discounted.
- While the existing and proposed cultivation sites extend over 17.54% and 2.75% of the constituent community types 'Muddy sand to coarse sediment with Pygospio elegans' community complex and 'Sand with Angulus tenuis and Scoloplos (Scoloplos) armiger' community complex, published literature suggests that aquaculture activities occurring at trestle culture sites are not considered disturbing. The total spatial overlap of the access routes on the above community types is 2.86% and 3.04% respectively (access routes used in inter-tidal areas are considered disturbing). Given that these values (individually and combined) are less than the 15% overlap threshold significant adverse impacts of activities on these community types can be discounted.
- Accordingly, the current levels of aquaculture activities, including access routes, do not pose a risk of significant disturbance to the conservation of the habitat feature of Mudflats and Sandflats not covered by seawater at low tide (1140) or the constituent community and community complexes of 'Muddy sand to coarse sediment with Pygospio elegans' community complex, and 'Sand with *Angulus tenuis* and Scoloplos (*Scoloplos armiger*)' community complex.
- In one instance, the proposed aquaculture activity at site T12/492A, the risk of significant disturbance cannot be dismissed as the hydrodynamics of the inner part of the bay (and subsequently, the structure of the constituent community types) may be impacted by the scale of the proposed operation.
- The risk of establishment of non-native oyster species is considered low in Trawbreaga Bay. Long residence times (>21 days) and large intertidal areas are factors contributing to the successful recruitment of oysters in Irish bays. Heavy macroalgal cover is a potential factor governing recruitment, with higher cover

resulting in lower recruitment. Oyster cover in the SAC does not fulfill these criteria in that residence time is approximately 10 days and there is heavy cover of macroalgae in intertidal areas. However, Trawbreaga Bay effectively flows into the broader Lough Swilly presenting a risk to the Lough Swilly SAC. Any licences issued will contain a recommendation that triploid oysters continue to be used in North Inishowen Coast SAC in order to minimize any risks to Lough Swilly SAC.

- The main aspect of the culture activities that could potentially impact Otter (*Lutra lutra*) is the physical presence of trestles that may restrict Otter access to certain habitats. Given the nature of the structures and the likely timing of activities the risk of disturbance to Otter features posed by aquaculture is considered low.

Trawbreaga Bay SPA

- Due to the proposed scale of oyster cultivation; the lack of any significant use of the intertidal habitat by the Chough; and the separation of known foraging, roosting or nesting sites, from the proposed oyster cultivation, negative impact on the Chough using Trawbreaga Bay is considered unlikely.
- Barnacle Geese are in favourable conservation status with a growing population in Trawbreaga/Malin (NPWS, 2014a). The Trawbreaga flock would appear to be closely linked with the wider Malin flock and should be considered as a single unit. Barnacle Geese are not a qualifying interest of the neighbouring Malin Head SPA. The species is primarily a land-based bird, foraging terrestrially while roosting can occur on sandbanks, saltmarsh and offshore islands. As Barnacle Geese do not feed in the inter-tidal area the placement of trestles would not result in any direct loss of foraging grounds. While there is evidence for intertidal roosting, observed flocks have been small and ample alternate intertidal habitat exists to accommodate such day-time roosting
- Proposed aquaculture site T12/492 is larger in scale than others in the bay and located close to areas highlighted as being used by Barnacle Geese at Magheranaul/Strath. Disturbance of Barnacle Geese at this location cannot be discounted. There is a potential for conflict from access points where there may be increased activity close to feeding birds and/or from increased levels of activity on the shoreline.
- The site conservation condition for Light-bellied Brent Goose at Trawbreaga Bay SPA has been assessed as favourable based on increasing population. However, looking solely at area of subsites; areas of intertidal habitat/subsite; and area of intertidal habitat under aquaculture there is a potential for displacement of marginally more than 5% with reference to two subsites. The current and proposed location of trestles with respect Light-bellied Brent Geese behavior and feeding ecology were therefore considered further. The favourable conservation status of the species; large area of suitable habitat; foraging opportunities provided by green algae on trestles and displacement of birds feeding in and around trestles during the course of routine maintenance all combine to determine how Light-bellied Brent Geese would be impacted by oyster cultivation. In reality displacement of birds is therefore likely to be much less than 5%. Accordingly, aquaculture activities, existing and proposed are not considered disturbing to Light-bellied Brent Geese."

8.0 Section 61 Assessment

The Section 61 assessment is being carried out on appeals that have previous outlined as having substantive issues:

Appeal	Site	Substantive Issues addressed under Section 612 Assessment
AP1/2020	T12-540	"orderly aquaculture development in the bay", location and layout of site and sediment mobility are substantive issues.
AP2/2020	T12_541A	Substantive issues include the statement by the Minister that "The application is excessive in size of respect of past licensing policy and licensing of the site would not be in accordance with orderly development policy in the bay", "negative impacts on the operations of existing oyster farms causing reduced growth and having a hydrodynamic impact with a potential for sedimentation pattern change, and rerouting of currents in the area." and "negative impact on the passage of migratory fish passage and boats in the low water channel."
AP19/2020	T12_531A	Substantive issues include "The site substrate is unsuitable with areas of uneven profile and areas exposed to strong hydrodynamic action that would be subject to not infrequent sediment movements", "Trestle placement on or close to this area of mobile sand would result in sinking or burial of trestles placed and would also be very likely to negatively affect hydrodynamics in the area" and Development of this site would have negative impacts on the operations of existing oyster farms causing reduced growth and having a hydrodynamic impact with a potential for sedimentation pattern change, and rerouting of currents in the area".
AP20/2020	T12_532A	Substantive issues include "The site substrate is unsuitable with areas of uneven profile and areas exposed to strong hydrodynamic action that would be subject to not infrequent sediment movements", "Trestle placement on or close to this area of mobile sand would result in sinking or burial of trestles placed and would also be very likely to negatively affect hydrodynamics in the area" and Development of this site would have negative impacts on the operations of existing oyster farms causing reduced growth and having a hydrodynamic impact with a potential for sedimentation pattern change, and rerouting of currents in the area".

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
As seen from Figures 9 and 10 sites T12-540, T12_541A, T12_531A and T12_532A are all located within close proximity to each other in the central part of the Bay proximate to the main channel for which water enters the Bay. Historic satellite imagery back to 2009 (Google earth Pro) and orthography back to 1995 (http://map.geohive.ie/mapviewer.html) were examined to understand recent sediment movements in the area and the way the channels within the Bay function at low tide.

From Figure 25 it can be seen that there are two main channels providing access to the Bay at low water (Image date March 2019). The red oval in figure 25 indicates the location of the proposed four aquaculture sites. The yellow arrow and the white arrow indicate the main channels into the bay at low water. However, it is important to note that these channels are shown right back to the 1800's on six inch mapping (Figure 9), and do vary slightly over the years, indicating changes in sand mobility and the location of channels.
These four sites are not located on the primary channel to the Bay However, the placement of new sites on the lower intertidal side of existing licenced sites could lead to further sediment deposition and suboptimal growth on the sites on the existing licenced sites, within the bay including as outlined in the grounds for refusal:

T12_540 (AP1/2020)
As outlined in the refusal, "Licensing this site would also introduce oyster aquaculture into an area of potentially greater sediment mobility than existing sites" and impact on the "orderly aquaculture development in the bay". However, given the location of this site within the Bay, the site does not extend significantly further out into the main channel of the Bay than previously licenced sites. It is felt that this site is no more at risk than the existing sites to greater sand mobility that of existing sites that are farmed along the north shore. In addition, it is felt that this site, will not impact on the "orderly aquaculture development in the bay" as the site is beside a channel within the bay and owner of the sites on the inside of the proposed site, is the same as the applicant, and therefore presence of this narrow site would therefore not impact significantly on other aquaculture users in the Bay. Therefore, it is recommended to grant a licence to this site.

T12_541A
As outlined in the refusal the proposed aquaculture has the potential for "negative impacts on the operations of existing oyster farms causing reduced growth and having a hydrodynamic impact with a potential for sedimentation pattern change, and rerouting of currents in the area" and "negative impact on the passage of migratory fish passage and boats in the low water channel."

It should also be noted that based upon an examination of recent satellite imagery, trestles have been present in the proposed aquaculture site (T12_541A), from a minimum of May 2017-March 2019. Subsequent imagery of the site is unclear. Based on a recent site visit this area is proximate to extreme low water and requires very low tides to visit. Having assessed other sites in the bay on the day of the site visit the

appeal area was covered by water 1hr after low tide and could not be surveyed. However, it should also be noted that the site is on the western side of a subtidal channel (Figure 25) which has been avoided by the trestles in the adjacent site, indicating that the area is at the workable limit of tidal range. In addition, the presence of this channel may also be the reason for the possible encroachment of trestles on to T12/541A as the channel takes up a substantial portion of the adjacent licenced site and the trestles appear to be in line with the site to the south east.

The channel within this area would not be seen to be one of the main channels within the Bay that would be used by migratory fish. It would be expected that migratory fish would use the southern main channel at low tide and would not cross this narrow channel over the sand banks. However, the site is on the outer edge of an existing licenced aquaculture site and it would be expected that the placement of trestles on this site would impact negatively on sites on the terrestrial side of the farm, through lower growth rates and increased sedimentation. It is therefore recommended that the refusal of this licence is upheld as the site will impact on the "orderly aquaculture development in the bay" and have "negative impacts on the operations of existing oyster farms causing reduced growth and having a hydrodynamic impact with a potential for sedimentation pattern change, and rerouting of currents in the area".

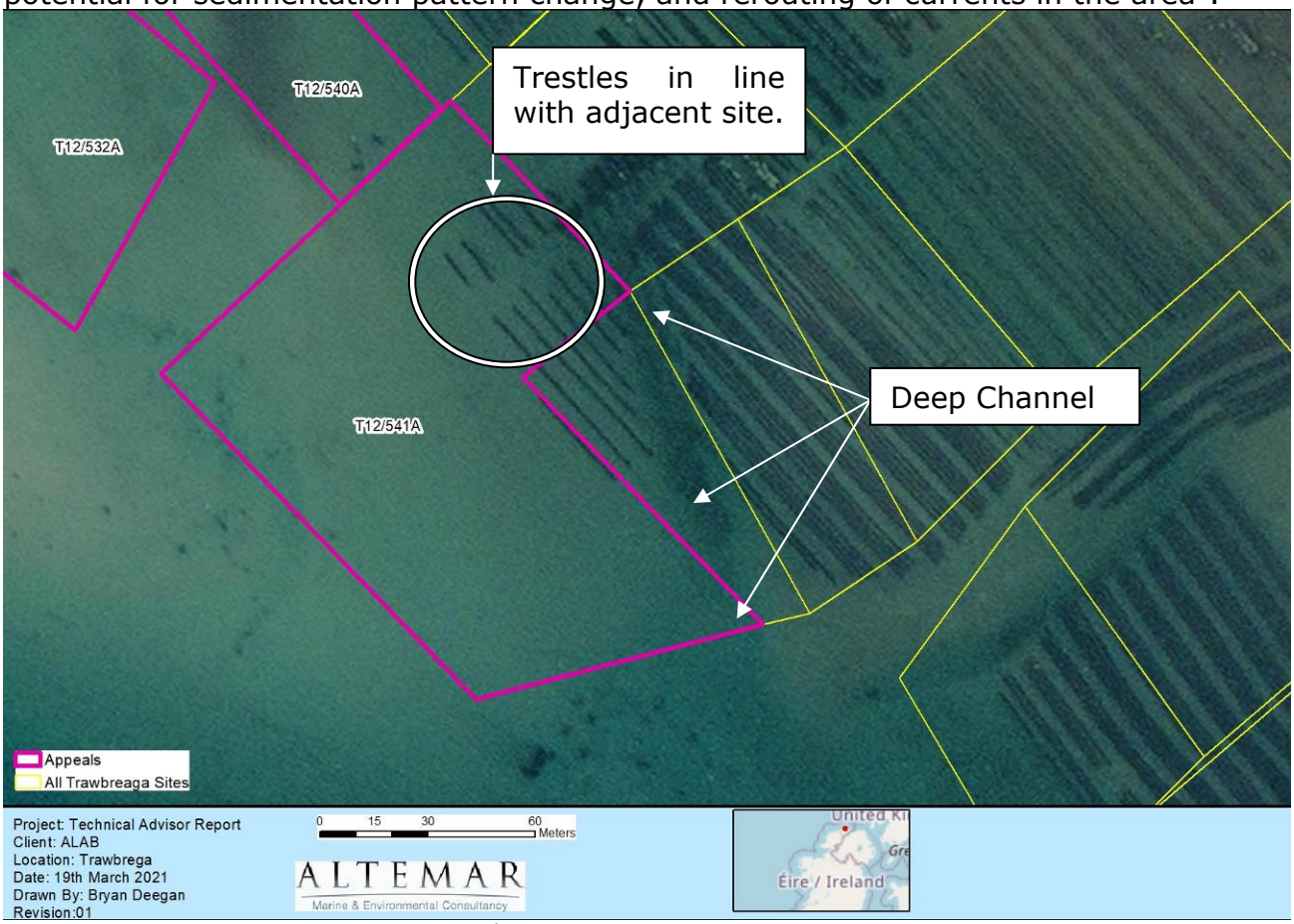
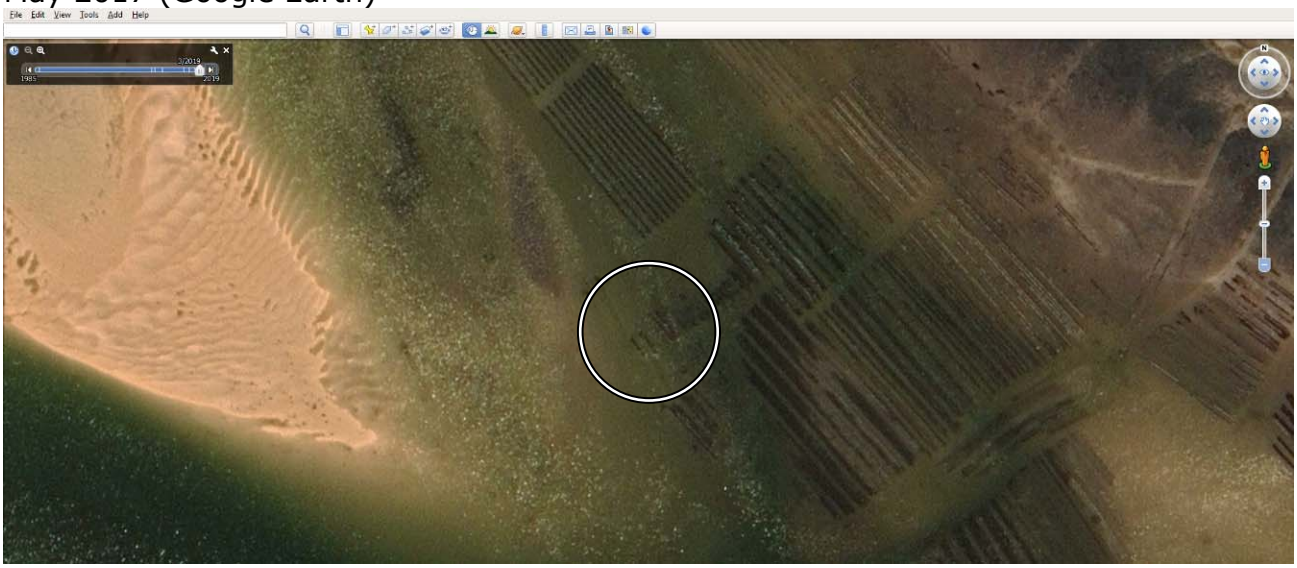


Figure 25. Satellite Imagery. 7th March 2018 (Sources: Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community)

May 2017 (Google Earth)



March 2019 (Google Earth)

T12_531A & T12_532A

1) "The site substrate is unsuitable with areas of uneven profile and areas exposed to strong hydrodynamic action that would be subject to not infrequent sediment movements",

2) "Trestle placement on or close to this area of mobile sand would result in sinking or burial of trestles placed and would also be very likely to negatively affect hydrodynamics in the area"

3) "Development of this site would have negative impacts on the operations of existing oyster farms causing reduced growth and having a hydrodynamic impact with a potential for sedimentation pattern change, and rerouting of currents in the area".

Figure 26. Channels at low tide.

The channel within this area would not be seen to be one of the main channels within the Bay that would be used by migratory fish. It would be expected that migratory fish would use the southern main channel at low tide and would not cross this narrow channel over the sand banks. There is evidence of sediment movements over time within the Bay and the site may be impacted by sediment movements in the long term. However, of note, the site is on the outer edge of an existing licenced aquaculture site and it would be expected that the placement of trestles on this site would impact negatively on sites on the terrestrial side of the farm, through lower growth rates and increased sedimentation. It is therefore recommended that the refusal of this licence is upheld as the site will impact on the "orderly aquaculture development in the bay" and the "Development of this site would have negative impacts on the operations of existing oyster farms causing reduced growth and having a hydrodynamic impact with a potential for sedimentation pattern change, and rerouting of currents in the area".

<u>The site location of T12 540 is deemed to be suitable. However. the site location of the remainder of the sites (T12 541A, T12 531A and T12 532A) is deemed to be unsuitable, primarily as the proposed aquaculture sites are likely to have a significant impact on other aquaculture sites within the bay.</u>

6.2 Other Uses

Tourism/Recreation/Leisure

The aquaculture sites are not located an area of high Tourism/Recreation/Leisure activity. The proposed aquaculture licences, would not be expected to significantly impact on the scenic landscape, recreational boat traffic or leisure activities within the Bay.

Fishing/ Harvesting

The aquaculture sites are within a designated shellfish waters with limited inshore fishing and harvesting. Angling is present throughout the Bay.

The proposed aquaculture sites will not significantly impact on fishing and harvesting users of the area.

6.3 Statutory Status

The site is within an Areas of Moderate Scenic Amenity. As outlined in the Donegal County Development Plan. "These areas have the capacity to absorb additional development that is suitably located, sited and designed subject to compliance with all other objectives and policies of the plan." It is not foreseen that the aquaculture operations at the sites would impact on current or potential development plans due to the visual impact.

The proposed aquaculture sites will have not a significant impact on the statutory status of the area.

6.4 Economic Effects

The scale of the proposed aquaculture sites is moderate and would only be expected to benefit the applicants and their employees. The granting of the licences T12_541A, T12_531A and T12_532A would potentially have an impact on other users within the Bay. The granting of T12_540A would primarily impact on the applicants existing sites on the inside of the proposed site.

The proposed sites are **likely to initially have a non-significant positive effect** on the local economy of the area and **T12_541A, T12_531A and T12_532A have the potential for long term negative effect on the economy** due to impacts on other users within the bay.

6.5 Ecological Effects

No significant ecological impacts are foreseen from the granting of the licences. The Appropriate Assessment took the potential impact of the proposed licenced sites into account during the assessment and did not foresee significant effects from these sites.

The proposed aquaculture **sites are not likely to have a *significant negative impact*** on the designated sites or significant ecological effects. However, as outlined

in the Marine Institute (2018) Bird Studies Trawbreaga Bay Special Protection Area (4034) Appropriate Assessment of Aquaculture & Shellfisheries Assessment of aquaculture activities "a clear Code of Practice; close consultation with NPWS and continuation of annual monitoring of Light-bellied Brent Geese is recommended to identify and address any disturbance issues that might arise."

6.6.1 Potential impacts

Having assessed the potential environmental impacts outlined above, the proposed sites do not have the potential to have a significant negative impact on the environment.

6.7 Effect on Man-Made Heritage

See section 5.9 for additional details. No National Monuments are in the vicinity of the proposed aquaculture developments.

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

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

A technical review was carried out by Altemar Ltd. in relation to the refused aquaculture licences. The applicants are the Appellants. A review of the appeal and Ministerial files was also carried out. As outlined in the determinations the Minister has refused the aquaculture licences based on the following:

Appeal	Site	Substantive Issues addressed under Section 612 Assessment
AP1/2020	T12-540	"orderly aquaculture development in the bay", location and layout of site and sediment mobility are substantive issues.
AP2/2020	T12_541A	Substantive issues include the statement by the Minister that "The application is excessive in size of respect of past licensing policy and licensing of the site would not be in accordance with orderly development policy in the bay", "negative impacts on the operations of existing oyster farms causing reduced growth and having a hydrodynamic impact with a potential for sedimentation pattern change, and rerouting of currents in the area." and "negative impact on the passage of migratory fish passage and boats in the low water channel."
AP19/2020	T12_531A	Substantive issues include "The site substrate is unsuitable with areas of uneven profile and areas exposed to strong hydrodynamic action that would be subject to not infrequent sediment movements", "Trestle placement on or close to this area of mobile sand would result in sinking or burial of trestles placed and would also be very likely to negatively affect hydrodynamics in the area" and Development of this site would have negative impacts on the operations of existing oyster farms causing reduced growth and having a hydrodynamic impact with a potential for sedimentation pattern change, and rerouting of currents in the area".
AP20/2020	T12_532A	Substantive issues include "The site substrate is unsuitable with areas of uneven profile and areas exposed to strong hydrodynamic action

		that would be subject to not infrequent sediment movements", "Trestle placement on or close to this area of mobile sand would result in sinking or burial of trestles placed and would also be very likely to negatively affect hydrodynamics in the area" and Development of this site would have negative impacts on the operations of existing oyster farms causing reduced growth and having a hydrodynamic impact with a potential for sedimentation pattern change, and rerouting of currents in the area".

It is concluded that the licences T12_541A, T12_531A and T12_532A, refused by the Minister, are likely to significantly impact on other users and "orderly aquaculture development in the bay" but are not likely to impact on the environment, man-made heritage and visual landscape.

In relation to T12_540, refused by the Minister, this site is not likely to significantly impact on the on the environment, navigation, other users and "orderly aquaculture development in the bay", man-made heritage and visual landscape.

10.0 Recommendation of Technical Advisor with Reasons and Considerations.

Following the assessment of the Appeal, it is recommended to confirm the Minister's decision refuse T12_541A, T12_531A and T12_532A. However, in relation to AP1/2020 (T12-540) as the applicant farms the sites on the inside of the appeal site it is considered that the granting of a licence in this instance would not impact on the orderly development of the Bay. Therefore, this licence should be granted

11.0 Draft Determination Refusal /or Grant

Having carried out an inspection of the proposed site and in accordance with Sections 59 & 61 of the Fisheries (Amendment) Act 1997, it is **recommended to confirm the Ministers decision and refuse the licences for sites:**

AP2/2020	T12_541A
AP19/2020	T12_531A
AP20/2020	T12_532A

However, in relation to AP1/2020 (T12-540) this site should be granted.

Technical Advisor: *Bryan Deegan*

Date: 22nd April 2021

Appendix I Site Synopsis North Inishowen Coast SAC

Site Code: 002012

The North Inishowen Coast SAC stretches from Crummies Bay in the west up to Malin Head and back down to Inishowen Head to the east. It encompasses an excellent variety of coastal habitats including high rocky cliffs, offshore islands, sand dunes, saltmarsh, a large intertidal bay, and rocky, shingle and sand beaches. There are excellent raised beaches along the east coast including the oldest and best preserved late-glacial fossil coast in Ireland (between Ineuran Bay and Esky Bay). Indeed it is the only well preserved such coast in Europe and so is of international importance. Also of geomorphological interest is the small area of stone polygons near Malin Tower.The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):
[1140] Tidal Mudflats and Sandflats
[1220] Perennial Vegetation of Stony Banks
[1230] Vegetated Sea Cliffs[2130] Fixed Dunes (Grey Dunes)*
[21A0] Machairs*
[4030] Dry Heath
[1014] Narrow-mouthed Whorl Snail (Vertigo angustior)
[1355] Otter (Lutra lutra)

Sea cliffs are a feature of the site, with the best examples found in the west of the site (Dunree to Leenan Head and Dunaff Head) and in the area to the north-west of Glengad Head. Cliffs are often less than 50 m in height, though they reach over 200 m at Dunaff and to the north-west of Glengad Head. The dominant rock type is quartzite which is particularly hard and unyielding. The vegetation cover of the cliffs is variable, depending on factors such as underlying geology, aspect and the degree of exposure to winds and sea spray. Common plant species of the rocky cliffs are Thrift (Armeria maritima), sea-s purrey(Spergularia spp.),Sea Aster(Aster tripolium), Red Fescue(Festuca rubra),Common Scurvygrass(Cochlearia officinalis),Sea Campion(Silene vulgaris subsp. maritima) and Buck's-horn Plantain(Plantago coronopus). In addition to the higher plants, the saxicolous lichen Ramalina siliquosa is a very characteristic feature of cliffs throughout the site. The cliffs contain a number of rare plant species, notably Scots Lovage (Ligusticum scoticum), a legally protected species.Two other scarce species recorded at the site, Moss Campion (Silene acaulis) and Purple Saxifrage (Saxifraga oppositifolia), are listed in the Red Data Book.Ivy Broomrape (Orobanche hederae), a locally rare species that is parasitic on Ivy (Hedera helix), has been recorded from sea cliffs to the north of Leenan Bay. The striking succulent species Roseroot (Rhodiola rosea), which is largely restricted to high mountain cliffs and sea cliffs in the west and the north of the country, is frequent throughout the site. In many parts of the site sea cliff areas support dry heath and grassland vegetation.Shingle beaches are well represented at the site, with the best examples at Rockstown harbour/Tullagh Point and along the north-western shoreline of Malin Head promontory. These areas contain good examples of raised beaches, characterised by large mounds of shingle, which may be interspersed by low cliffs (as seen at Tullagh Point). Although the vegetation of these shingle areas is usually quite sparse, plant species such as Sea Sandwort (Honkenya peploides),Sea Mayweed(Matricaria maritima) and Curled Dock(Rumex crispus)are locally frequent. The rare species Oysterplant (Mertensia maritima), which is listed in the Flora (Protection) Order, 1999, has been recorded growing on shingle substrate within the site. Sand dune systems occur within the site at several locations, with good examples

of fixed dunes and machair. The dune habitat at the Isle of Doagh is by far the most extensive. Typical species of the fixed dunes include Marram (Ammophila arenaria) and Red Fescue, accompanied by Common Bird's-foot-trefoil (Lotus corniculatus), Sand Sedge(Carex arenaria),mouse-ears(Cerastium spp.), Wild Thyme (Thymus praecox),Smooth Meadow-grass(Poa pratensis) and Mouse-e ar Hawkweed (Hieracium pilosella). Bryophyte cover is usually well developed, with species such as Rhytidiadelphus squarrosus, Hypnum cupressiforme and Calliergon cuspidatum being frequent. Although much of the botanical character of the machair habitat at Doagh Isle has been modified due to agricultural reclamation, re-seeding and over-grazing, significant areas with a typical machair flora remain. The sward is typically dominated by low herb species such as Red Fescue, Ribwort Plantain (Plantago lanceolata), Daisy(Bellis perennis),Red Clover(Trifolium repens)andLady's Bedstraw(Galium verum). Shifting dunes and fixed dunes also occur above the rocky shore at Meallalaghtra/Lenan Head. This area also contains marsh with Mare's-tail (Hippuris vulgaris), Brookweed (Samolus valerandi) and sedges (Carex spp.).Hygrocybe species, fungi that are indicators of unimproved grassland, occur in the coastal grassland sward.Significant areas of dry heath occur in the site at both low and high altitudes. The best-developed and most extensive areas are to be found at Dunaff Head, Binnion Hill and in the Urris Hills from Mamore Gap, south-west to Lough Fad and beyond to Crockfadda. However the habitat is also encountered at sea level where it tends to form a mosaic with grassland vegetation. Typically the vegetation develops on shallow peats less than 50 cm deep and is dominated by Heather (Calluna vulgaris). Other frequent shrub species include Bell Heather (Erica cinerea), Cross-leaved Heath(Erica tetralix), Crowberry(Empetrum nigrum) and Bilberry (Vaccinium myrtillus). Fir Clubmoss (Huperzia selago) and the diminutive Lesser Twayblade (Listera cordata) are Version date: 10.02.20143 of 4 002012_Rev13.Docpresent in the heath on the Urris Hills. In addition to the dwarf ericoid component, acid grassland species such as Mat-grass (Nardus stricta),Velvet Bent(Agrostis canina),Tormentil(Potentilla erecta)and Heath-grass (Danthonia decumbens) are frequent components. This combination of plant species gives rise to a mosaic of dwarf heath and acid grassland, the relative proportion of which depends on factors such as degree of exposure, grazing intensity and the frequency of fire. Often there is much outcropping rock present and invasion by Bracken (Pteridium aquilinum) is a frequent feature of the habitat (as seen at Binnion Hill). At Dunaff Head the habitat forms a mosaic with blanket bog, containing Common Cottongrass (Eriophorum angustifolium), Hare's-tail Cottongrass (E. vaginatum), Cross-leaved Heath and Eared Willow (Salix aurita). The main threats to the heath habitat at present are over-grazing and uncontrolled burning. A diverse fern flora is found on damp, north-facing rock outcrops in the Urris Hills, including Wilson's Filmy-fern (Hymenophyllum wilsonii), Broad Buckler-fern (Dryopteris dilatata), Hay-s cented Buckler-fern (D. aemula), Black Spleenwort (Asplenium adiantum-nigrum) and polypody ferns (Polypodium spp.). The Urris Hills also contain the oligotrophic lakes Crunlough and Lough Fad, and on their lower slopes dry and wet acid grassland, Hazel (Corylus avellana)scrub, dense Bracken, blanket bog and wet heath occur.Trawbreaga Bay is a very sheltered sea bay with a narrow strait to the open sea at the north end. It is fed by a number of small rivers or streams. An estimated 80% of the bay area is exposed at each low tide to expose a mixture of mudflats, sandbanks and stony/rocky substrates. In the inner reaches of the bay, the substrate consists of muddy sand and coarse sediments with an infaunal community of polychaetes, oligochaetes and crustaceans. Within the narrow strait, the community is comprised of bivalves and polychaetes within a sandy substrate. The polychaete Arenicola marinais a conspicuous species within the intertidal soft sediments of the bay. Beds of Dwarf Eelgrass (Zostera noltii) display temporal variation in occurrence within the bay; they were recorded on the shore at Doaghmore and currently present southwest of

Glassagh Point. Mats of green algae occur on the open flats. Some areas of saltmarsh fringe the bay. Throughout the site, exposed sandy beaches occur in embayments and in coves bordered by bedrock and in the outer reaches of Trawbreaga Bay. Here a sand community with crustaceans and polychaetes occurs. Where the intertidal reef is present on exposed shores the community consists of the bivalve Mytilus edulis and barnacles. In such areas where reef extends into the subtidal the kelp Laminaria hyperboreaoccurs. In the less exposed areas and within Trawbreaga Bay the brown algae Pelvetia canaliculata, Fucus vesiculosus, F. spiralis and Ascophyllum nodosum are found. Otter are regularly seen along the shoreline and may breed within the site. Otter is a species listed on Annex II of the E.U. Habitats Directive. Another Annex II species, the tiny whorl snail Vertigo angustior, is also known from this site.

This site has important bird interests. An internationally important population of Barnacle Goose occurs in the area, with Trawbreaga Bay their most important haunt. For the four winters 1994/95 - 1997/98 the mean peak count was 673 birds. Barnacle Goose is listed on Annex I of the E.U. Birds Directive. A range of other waterfowl species winter at Trawbreaga Bay, with an internationally important population of Brent Goose (338 in winters 1994/95-97/98). Other species which occur in regionally or locally important numbers include Wigeon, Mallard, Oystercatcher, Ringed Plover, Dunlin, Curlew and Redshank. Two Annex I E.U. Birds Directive species breed within the site. There are up to 12 breeding territories of Peregrine and 12 pairs of Chough. Both of these species are associated with the rocky sea cliffs, with the Choughs utilising the heath and sandy habitats for feeding. Several species of seabird breed on the cliffs and islets. These include Fulmar (150+ pairs), Cormorant (270+ pairs), Shag (330+ pairs), Kittiwake (<500 pairs), Guillemots (approx. 1,000 individuals), Razorbills (approx. 1,000 individuals) and Black Guillemots (approx. 80 individuals) (All data from 1970s). The machair and dunes at Doagh Isle and elsewhere support breeding waders. In 1996 the following were recorded: Oystercatcher (2+ pairs), Ringed Plover (7 pairs), Lapwing (15 pairs) and Snipe (3 pairs).This northern site is of high conservation value because of the extensive area of relatively unspoilt coastal and heath habitats and the range of plant and animal species that these habitats support. Of particular note is the presence of good examples of two E.U. Habitats Directive Annex I priority habitats, fixed dunes and machair. Very good examples of several other Annex I habitats are found, notably sea cliffs, vegetated shingle banks, dry heath and intertidal sand and mudflats. There are two legally protected plant species and a range of scarce species. The diversity of bird species is of particular note, with wintering waterfowl, breeding seabirds and breeding waders. Important populations of three E.U. Birds Directive Annex I species occur - Barnacle Goose, Peregrine and Chough.

Appendix II- Site Synopsis Trawbreaga Bay SPA
Site Code: 004034

Trawbreaga Bay is a well-sheltered sea bay situated on the north-western coast of the Inishowen Peninsula, Co. Donegal. Doagh Isle, a low-lying, sandy promontory, stretches across the mouth of the bay, leaving only a narrow strait to the open sea. The bay is fed by a number of small rivers and streams, chiefly the Ballyboe, Donagh and Glennagannon rivers. The site includes Glashedy Island which lies approximately 1 km offshore. The village of Malin is situated on the eastern shore of the bay. An estimated 80% of the bay area empties at low tide to expose a mixture of mudflats, sandbanks and stony/rocky substrates. Mats of green algae occur on the open flats and brown algae (Fucus spp.) on the stones. Some areas of saltmarsh fringe the bay. The intertidal flats provide the main feeding area for the majority of the wintering waterfowl.This site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Barnacle Goose, Light-bellied Brent Goose and Chough. The E.U. Birds Directive pays particular attention to wetlands, and as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds. Trawbreaga Bay supports a good diversity of wintering waterfowl though numbers of most species are relatively low. The main importance of the site lies in the Barnacle Goose (236 – 4 survey mean between 1993 and 2004) and Light-bellied Brent Goose (362 - five year mean peak count for the winters 1995/96 to 1999/2000) populations. The Light-bellied Brent Goose population is internationally important. The site is also an important feeding and roosting area for Chough. In 2005 a total of 55 birds were recorded at the coastal roost at Five Fingers. Flocks of up 100 birds have also been recorded foraging within the site. Other species which occur include Whooper Swan (10), Wigeon (14), Mallard (161), Oystercatcher (163), Ringed Plover (89), Lapwing (247), Dunlin (288), Bar-tailed Godwit (37), Curlew (190), Redshank (34), Black-headed Gull (206), Common Gull (75) and Herring Gull (325). Trawbreaga Bay SPA, is of international importance for its Light-bellied Brent Goose population and also supports a nationally important population of Barnacle Goose. The regular occurrence of Barnacle Goose, Chough, Whooper Swan and Bar-tailed Godwit, which are listed on Annex I of the E.U. Birds Directive, is of note. Trawbreaga Bay is a Ramsar Convention site and part of the Trawbreaga Bay SPA is a Wildfowl Sanctuary.