Appeal Ref No. AP23 / 2020

Aquaculture Licences Appeals Board

Technical Advisor's Report

Description: **Assessment of the appeal against the Minister's decision to refuse an aquaculture and foreshore license for the intertidal cultivation of Native and Pacific Oysters using trestles and bags, floats and bags, molded baskets and longlines at Site T08/115A on the Aughinish Peninsula, Co. Clare.**

Licence Application

Department Ref No: T08/115A

Applicant: Sliogeisc Siar Teo c/o Aoife Buckley, 36 Mullan Mor, Tuam Road, Co. Galway

Minister's Decision: Refusal

Appeal

Type of Appeal: To appeal the Minister's decision to refuse to grant an Aquaculture and Foreshore license for the cultivation of Native and Pacific Oysters using trestles and bags, floats and bags, molded baskets and longlines at Site T08/115A on the Aughinish Peninsula, Co. Clare.

Appellant(s): Sliogeisc Siar Teo c/o Aoife Buckley, 36 Mullan Mor, Tuam Road, Co. Galway

Observers:

Technical Advisor ÉcoEireann Ecological Consultants

Date of site Inspection Friday 4th June 2021

Document Control

Version	Date	Changes	Confidentiality	Prep	Rev	Auth
V1	15/07/2021	Draft to client	Confidential	EC		
V2	12/08/2021	Incorporation of Client Comments	Confidential	EC		
V3	01/09/2021	Final Interim Report	Confidential	EC		

Contents

1.0 General Matters / Appeal Details

1.1 Appeal Details & Observer Comments / Submissions

Date Appeal Received: 27th November 2020
Location of Site Appealed: Aughinish Peninsula, Counties Clare and Galway.

1.2 Name of Appellant (s):

Sliogeisc Siar Teo c/o Aoife Buckley, 36 Mullan Mor, Tuam Road, Co. Galway

1.3 Name of Observer (s)

No observations or objections were lodged by the public during the public consultation phase of the application.

1.4 Grounds for Appeal

Licensing Precedent

The presence of the Native Oyster - The presence of shellfish within a proposed site is generally indicative that the site would be viable as an aquaculture site. To use the presence of this species as an exclusionary factor would render most licenses invalid. If there is a limit, then this limit should be defined.

The presence of invasive seaweed *Sargassum muticum* - this species is well documented as being common throughout Galway Bay including on most of the aquaculture sites. If the same criteria were to be applied to all other licence applications, then it is unlikely that many would be granted.

Site Suitability

Presence of Boulders- Boulders are present within the bounds of the proposed site, however these are not proposed to be removed or moved during set-up or operation, as they do not present any issues in terms of access or farming. The engineers report does not refer to any issues in relation to the site sediment or boulders.

Mobile Sediments - The site was chosen due to the presence of good currents adjacent to the main channel, a feature of such conditions are mobile sediments. To confine sites to backwaters where mud and stable sediments dominate would in general restrict the financial viability of farms.

Biased Appropriate Assessment

The appellant contends that the initial Appropriate Assessment covered all of Galway Bay and gave objections for the entire SAC, while this site in question (T08/115A) was singled out for an individual assessment (based on the issues outlined above), which is not entirely consistent with the overall assessment.

Licensing Timescales & Issues

The appellant contends that the licence application was dealt with in a very untimely manner, with a number of conflicting reports which resulted in the application being delayed and has financial loses. The appellant provided a timeline of events, see below.

- April 2018 - Licence application received.
- March 2019 - MED inspection of site with applicant
- July 2019 - MED approval of access route
- August 2019 - Public notice published in the Clare Champion– No objections received.
- December 2019 - DAFM Aquaculture and Foreshore Management Division letter informing applicant about a claim to private ownership of the oyster bed.
- July 2020 – subsequent site inspection by the MED found site access route was not viable and did not recommended licensing of the site. This site inspection report also referenced unproven and unsubstantiated claims to harvesting rights.

Unsubstantiated Ownership Claim

The appellant contends that the DAFM Aquaculture and Foreshore Management Division accepted an unproven claim to private ownership of the oyster bed subsequent to the period of public notice. No documents were provided to the applicant to substantiate this claim. With previous reports from the MED stating 'No Site Overlap'.

1.5 Minister's submission

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

The Minister responded to the application for the aquaculture and foreshore license as below as described in the DAFM website https://www.gov.ie/en/collection/aeb44-aquaculture-licence-decisions-clare/ [Accessed on 17/05/21].

The following are the reasons and considerations for the Minister's determination to refuse the license sought:

- Due to the presence of the native oyster, Ostrea edulis as well as the presence of the non-native invasive seaweed *Sargassum muticum* at Site T08/115A and

the risk of the dispersal of *Sargassum mutic*um beyond the boundaries of the site.

- The physical suitability of the site for trestles is questionable only parts may be suitable. At the southern end of the site the substrate consists of mobile sands. The development as proposed would be likely to cause disturbance to the habitat if the boulder lines or parts of the boulder lines on the site were to be moved to allow trestle placement.

- The site is located within the Galway Bay SAC. An Article 6 Appropriate Assessment has been carried out in relation to aquaculture activities in this SAC. Taking account of the recommendations of the Appropriate Assessment the proposed aquaculture activity at this site is not consistent with the Conservation Objectives for the SAC.

- The potential risks from licensing the proposed aquaculture activities at this site, on the integrity of the Natura 2000 site cannot be discounted.

1.6 Applicant response

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

In this case, the applicant made a submission as the appellant. The appellants response dated 26th November 2020, is addressed within this report.

2.0 Consideration of Non-Substantive Issues

All grounds for appeal lodged by the appellant are dealt with within this report, there were no grounds for appeal which were considered non-substantive.

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.

At this time an oral hearing has not been called nor requested by the appellant or the applicant.

It is considered, by the advisor, that an Oral Hearing is not required for this application where there is no conflicting technical information on relevant and significant aspects of the appeal.

4.0 Minister's file

Details of the file received by ALAB from the Minster requested under Section 43 are listed here in chronological order. Copies of the following items were received:

- Application forms, maps and drawings
- Submissions from Statutory and Technical consultations
- Appropriate Assessment Report of aquaculture activities for Galway Bay Complex SAC and Inner Galway Bay SPA
- The DAFM's Appropriate Assessment Conclusion Statement
- Notification of Minister's decision to the applicant
- Public notice of proposed application site

5.0 Context of the Area

5.1.1 Site location

The Aughinish peninsula is located on the southern shore of Galway bay, along the border of Counties Galway and Clare. The peninsula is bordered by Galway Bay to the north, Aughinish Bay to the south and Kinvarra Bay to the east.

The majority of the peninsula lies within County Galway with just the western tip Aughinish Island, which is connected to the peninsula via a small sand bar or causeway, lying in County Clare.

5.1.2 Physical characteristics

Galway bay is a prime example of a cyclical flushing system due to its concave shape allowing for swells and currents from the Atlantic Ocean to wash into the south of the bay along the Clare coastline and work its way up in an anti-clockwise fashion to exit the bay along the Connemara coastline. This flushing system enables good currents and phytoplankton growth throughout the Bay.

5.1.3 Freshwater influence

There is a single small stream (The Corranroo, IE_WE_29K022100) which feeds into the southern portion of Corranroo/ Aughinish Bay. This stream is the only freshwater influence into Aughinish Bay. Further larger rivers feed into Galway Bay along the eastern and northern shores.

5.1.4 Topography

The Aughinish peninsula is located on the north Clare coastline. The peninsula is connected to Aughinish Island via a small sandbar which forms a causeway. The proposed site is located on the southern side of this causeway.

5.1.5 Meteorological conditions

The Gulf Stream North Atlantic current flows up from the south and deflects from the Aran islands into Galway bay, following the southern coastline along the Clare coast and up to the east. The surrounding mountains, geographical location and southerly winds mean Galway bay has one of the highest amounts of annual rainfall in Ireland (ref)

5.1.6 Local population

The Aughinish peninsula is located within the townland of Aughinish, in the Abbey electoral area within the West Clare Municipal District. The Aughinish townland has an area of c. 1.709km^2. The population of Aughinish townland was 34 in the most recent census statistics (CSO, 2016), with the population of the Abbey electoral area being 454 persons in the 2016 census.

Figure 1: Proposed Site Location in relation to Galway Bay

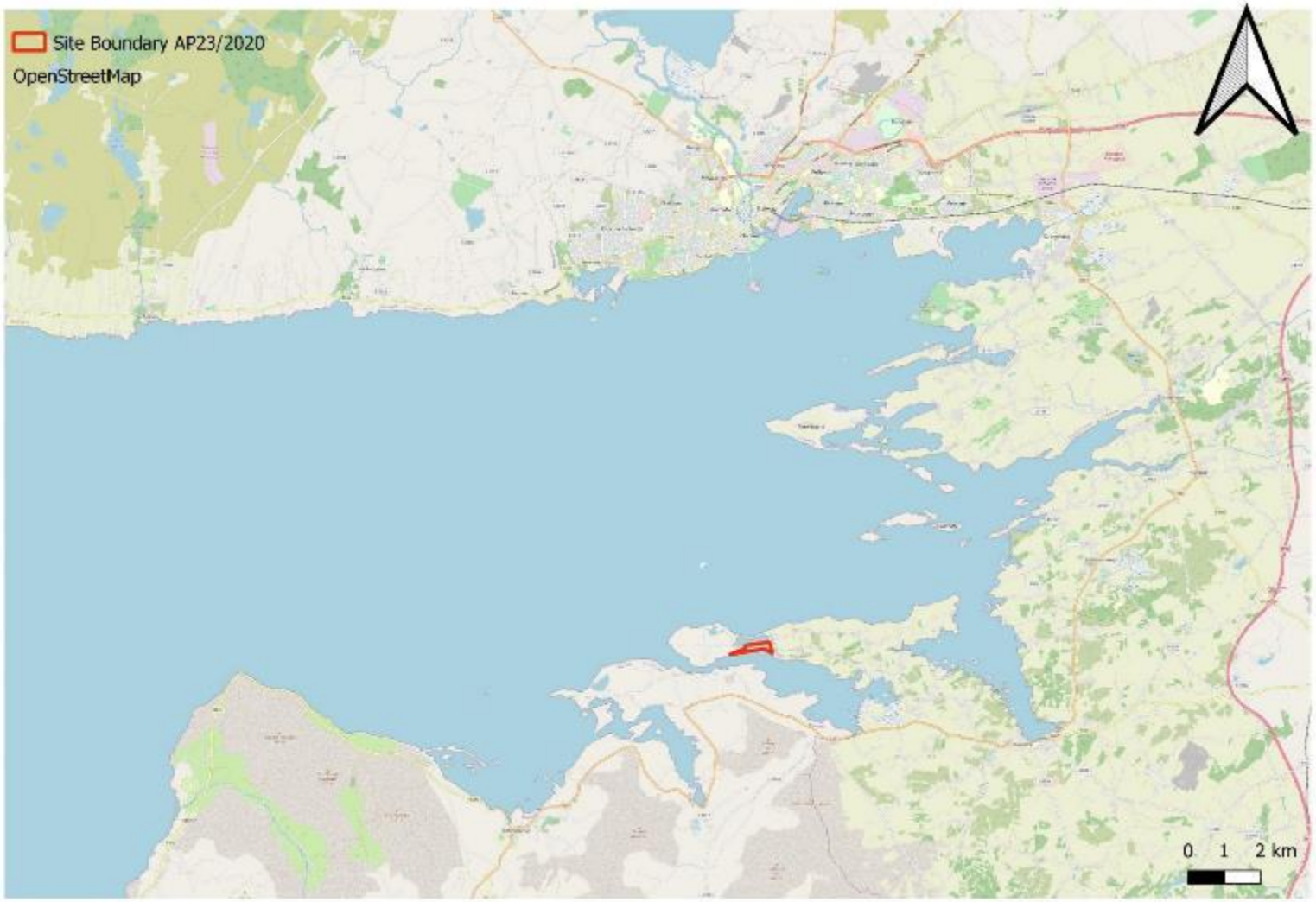


Figure 2: Proposed Site Location

5.2 Resource Users

Aquaculture Activity

All aquaculture sites within the Inner Galway Bay area occur within the southern half of the bay with no sites north of Mweeloon bay. The main clusters of sites occur along the eastern side of Galway Bay between Mweeloon Bay and Shanmullen channel, and along the southern shoreline between Kinvara bay and Puldnacarra bay. There are three sites in the inner Clarinbridge River esturary, two around Eddy Island and another two offshore sites between Aughinish and Island Eddy (Atkins, 2019).

Oyster farming within Galway Bay takes place in the intertidal zone mostly using the typical bag and trestle culture method employed across the rest of Ireland and abroad, however, floating bags and hanging bags are also used. Cultivation of the Pacific oyster (Crassostrea gigas) is carried out by growing oysters in mesh bags placed on steel trestles to keep them elevated above the seabed. Oysters are not artificially fed nor do they receive any medicinal treatments. They are filter feeders relying completely on the natural environment for food and consume phytoplankton when submerged during high tide periods (Atkins, 2019).

Hatcheries from which seed are sourced are:

- Redbank
- Streamstown Bay
- Morecambe Bay
- Guernsey farms

Of these, approx 46% is diploid seed from Irish hatcheries, 37% is diploid from Seasalter in Morecambe Bay and 17% is Triploid from the same two foreign hatcheries (MI, 2019).

Mussels (*Mytilus edulis*) are cultured using droppers from longlines held by floats or rafts. Cultivation of king scallops (*Pectin maximus*) and seaweed also occurs at singular sites across the Bay.

Bag and Trestle Oyster Cultivation

The bag and trestle method uses steel table-like structures which are placed in the middle to lower intertidal zone, usually arrayed in double rows with wide gaps between the paired rows to allow for vehicle access. The trestles hold HDPE bags approximately 1m by 0.5m by 10cm, using rubber and wire clips to close the bags and to fasten them to the trestles. When first put to sea, there may be up to 2000 oysters in a single bag, but as they grow and are graded this number is gradually reduced. Over the course of the two or three years that it takes an oyster to reach saleable size, the density is reduced until market ready oysters, of approximately 100g each (when grown to full size) are being grown in bags of approximately 100 oysters per bag. The bags need to be shaken, turned and re-secured occasionally to prevent build-up of fouling and to ensure the growing oysters maintains a good marketable shape. This usually takes place once on each tidal cycle when maximum exposure of the shore allows safe access to all trestles. Oysters are grown on in these bags for up to three years, and will be graded two or three times each year. Summer grading is now looked

upon unfavourably by growers as it stresses the oysters and makes them more susceptible to pathogens which are most common during the warm summer months and can lead to high mortality (MI, 2019).

Floating Bag Oyster Cultivation

This differs from bag and trestle in that the bags are secured to the trestles along one of the long sides and a small, purpose-built float is attached to the other side. As the tide rises and falls over the intertidal sites, the buoyant side of the bag rises, and it falls again with the outgoing tide. So essentially, the oysters are turned twice a day, every day. This can result in a more marketable oyster in terms of shape and meat yield. It also means that there are fewer labour inputs. The bags no longer need to be turned but instead only brought back to the packing shed for grading and re-bagging before being replaced on the trestles (MI, 2019).

Hanging Basket Oyster Cultivation

Baskets hang from wires or rope strung between poles placed in the intertidal zone. Tidal movement of water cause the baskets to rock, again providing a natural antifouling and a better shaped oyster with a higher meat yield. This method has the added advantage that baskets can be deployed and retrieved at either high water, using a boat, or low water, using a tractor.

Suspended Mussel Culture

The blue mussel (*Mytilus edulis*) is currently grown in suspended culture in two areas within Galway Bay Inner, one at Muckinish and one at the mouth of Kinvarra Bay. The mussels are cultures on dropper lines suspended from longlines. Seed is collected via natural settlement on ropes. Both farms are accessed via boat.

Angling Activity

Angling activity from Aughinish Island is extremely limited due to the shallow muddy and rocky nature of the surrounding shoreline. Charter boats are available for hire at numerous ports around Galway Bay, which enable significant deep sea and reef angling opportunities.

Tourism

Clare as a county is dependent on tourism from the Wild Atlantic Way (WAW) and has several tourist hotspots cross the county. In 2018 the Cliffs of Moher Experience was the country's number two top fee-charging visitor attraction with 1,580,000 visitors, an increase of almost 4% on 2017 (following an increase of 7% on the previous year and 14% on the year prior to that). The remaining four in the top five are all in Dublin (Fáilte Ireland, 2020).

In 2017 County Clare attracted a total of 749,000 international visitors to Clare (overnight) – 8.3% of all international visitors to Ireland, and 5% of the cumulative total of all international visitors to ALL counties – but only generates 3.2% of all international revenue (Fáilte Ireland, 2020).

The Midwest region (Counties Clare, Limerick and North County Tipperary) was the third most popular tourist and holiday destination outside of Dublin in 2017 (Fáilte

Ireland, 2018a). Approximately 10% (1.4 million) of the total overseas tourists visiting Ireland travelled to the Midwest region in 2017 (with over half of this number visiting County Clare) with approximately 1,500,000 tourists (overseas) travelling to the area in 2018, while c. 11% (1.1 million) of domestic tourists travelled to the area in 2018 (Fáilte Ireland, 2019).

The tourism industry makes a significant contribution to the vitality and sustainability of a wide variety of local enterprises in County Clare, particularly in rural areas (CCC, 2017). Several of Ireland's most popular tourist attractions are located in County Clare, including areas of natural heritage like the Cliffs of Moher, which was the second most popular fee-charging visitor attraction in Ireland in 2017 with over 1.5 million visitors (Fáilte Ireland, 2018b).

Agricultural Activity

The surrounding landscape is dominated by agriculture, the majority of it being pasture with some areas of arable farmland. Full statistics on the local area is not available at a fine scale.

Inshore Fishing activity

Within Inner Galway Bay a number of inshore fisheries activities take place, these activities include: Pot fisheries, Dredge fisheries, Set Net fisheries, and pelagic and demersal fisheries.

Pot Fisheries:

Approximately 14 vessels, using 2400 pots for an average of 118 days per vessel per year, fish for lobster in the SAC or in proximity to the SAC in the inner Galway Bay area east of Black Head – Spiddal. A fishery for velvet crab occurs in inner Galway Bay and especially along the south shore. Up to 10 vessels catch velvet crab either as a targeted catch or as a by-catch in the lobster fishery. Shrimp is an important shrimp fishery in inner Galway Bay. There are 22 vessels and 6350 potential pot hauls per day from September to January. The regulated closed season is June and July but the fishery also remains closed in Galway during August by voluntary agreement.

Dredge Fisheries:

Scallop may be fished episodically and at small scale west of the SAC. The fishery is regulated by minimum size of 100mm. The Galway Bay native oyster fishery is partly regulated by the Clarinbridge Oyster Co-operative through Fishery Orders issued in 1978 and 1980. However, not all of the native oyster beds are within the order areas. The current distribution of oysters is known from recent MI surveys and occurs in an area north-east of Eddy Island and east to the Clarin River. As specified in the Fishery Order the fishery opens in December only. However, there have been no oyster fisheries carried out since 2016. There is a discrete bed of surf clam in inner Galway Bay, just north of Eddy Is., which is fished regularly by 1 vessel. A razor clam bed is thought to occur along the north shore of inner Galway Bay within the SAC. This bed is not classified for production of Razor clams and is not fished.

Set Net Fisheries:
Tangle netting for crayfish and to a lesser extent turbot, occurs in the outer Bay and Connemara coast. Up to 32 vessels may be involved from May-Nov. The amount of gear used is unknown. Tangle netting also occurs on the Clare coast. A proportion of vessel operators fishing with pots for crustaceans may also use trammel nets to catch bait (dogfish, wrasse). The level of activity is unknown. Potting vessels (with a pot licence only) are not entitled to fish trammel nets.

Demersal Fishing:
Fishing for sprat may occur in winter and spring in inner Galway Bay. Reported VMS activity is very low in inner Galway Bay however. Demersal trawling occurs in the outer Bay and particularly on the north shore from Spiddal west to Golam Head where Nephrops is targeted.

Leisure Users of the water body & surrounding area

Galway Bay is a large multi-functional bay system, the waters and adjoining lands support a range of functions, uses, communities, activities, and environmental resources/assets, among the most notable functions are;
• Marine related Industry/Industry
• Fishing/Aquaculture
• Marine Tourism, Leisure and Recreation
• Aviation
• Heritage and Landscape
• Important Habitats and Species

The local area of Aughinish is not known for marine recreation activities which are generally situated in more populous areas around Galway Bay, such as to the west at Lahinch and Kilkee, or to the North around Galway City.

5.3 Environmental Data

Water Quality

Bathing Water

Bathing water quality is not monitored within Aughinish Bay. The nearest site which is monitored for bathing water is the Traught beach, (IEWEBWC160_0000_0100), located 4.3km east of Aughinish island, which for the 2019 period was recorded as being of Excellent Water Quality. Further sites monitored for Bathing Water Quality are located at Bishopsquarter, to the south-west (IEWEBWC110_0000_0100) which is also considered to be of excellent water quality (https://gis.epa.ie/EPAMaps/ [accessed on 31/05/2021]).

Transitional and Coastal Waters

Transitional water is the term used to describe estuaries and lagoons. In Ireland, transitional and coastal waters cover an area of over 14,000 km2 (transitional 844 km2; coastal 13,325 km2) and represent a wide variety of types such as lagoons, estuaries, large coastal bays, and exposed coastal stretches. The ecological status of these waters has been assessed using data from 2013 to 2018, as many of the biological assessments are undertaken over a six-year period. The saline waters of

Ireland are comprised of 304 water bodies (110 coastal and 194 transitional) and approximately 40% of these are monitored in the national Water Framework Directive monitoring programme. The nearest transitional water area designated is to the East in Kinvara bay and is considered unpolluted (IE_WE_160_0100) (https://gis.epa.ie/EPAMaps/ [accessed on 31/05/2021]).

Water Framework Directive

Water quality in Galway Bay is monitored as part of the Water Framework Directive (WFD) monitoring programme. The latest round of monitoring results (2013-2018) indicates that Outer Galway Bay (site code: IE_WE_100_0000) demonstrates 'High' Water Quality for Coastal Water Quality Status. The adjacent sites (Inner Galway Bay (site code: IE_WE_160_0000) and Aughinish Bay (site code: IE_WE_130_0000) have 'Unassigned' water quality status (under Coastal Waters) for 2015 to 2018 period (EPA, 2019).

5.4 Statutory Status

Nature Conservation Designations

Galway Bay is designated as both a Special Area of Conservation (Galway Bay complex SAC) and a Special Protection Area (Inner Galway Bay SPA) (Figures 3 and 4, below). The Bay is also designated as a Ramsar Convention site and part of the Inner Galway Bay SPA is a Wildfowl Sanctuary.

Inner Galway Bay SPA:

Inner Galway Bay SPA is a very large, marine-dominated, site situated on the west coast of Ireland. The inner bay is protected from exposure to Atlantic swells by the Aran Islands and Black Head. Subsidiary bays and inlets (e.g. Poulnaclough, Aughinish and Kinvarra Bays) add texture to the patterns of water movement and sediment deposition, which lends variety to the marine habitats and communities.

The terraced Carboniferous (Viséan) limestone platform of the Burren sweeps down to the shore and into the sublittoral. The long shoreline is noted for its diversity, with complex mixtures of bedrock shore, shingle beach, sandy beach and fringing salt marshes. Intertidal sand and mud flats occur around much of the shoreline, with the largest areas being found on the sheltered eastern coast between Oranmore Bay and Kinvarra Bay. Seagrass beds lie off Finavarra Point. A number of small islands composed of glacial deposits are included, such as Deer Island, along with some rocky islets (NPWS, 2019)

Inner Galway Bay SPA is of high ornithological importance with two wintering species having populations of international importance and a further sixteen wintering species having populations of national importance, listed in Table 1 below. The breeding colonies of Sandwich Tern, Common Tern and Cormorant are also of national importance. The wetland habitats contained within Inner Galway Bay SPA are identified of conservation importance for non-breeding (wintering) migratory

waterbirds. Therefore, the wetland habitats are considered to be an additional Special Conservation Interest.

Table 1 Special Conservation Interests of Inner Galway Bay SPA

Common Name	Latin Name	Annex I	Baseline Population[A]	Population Status at Baseline
Light-bellied Brent Goose	*Branta bernicla hrota*		676	International Importance
Red-breasted Merganser	*Mergus serrator*		249	All-Ireland Importance
Great Northern Diver	*Gavia immer*	Yes	94	International Importance
Cormorant*	*Phalacrocorax carbo*		266 (winter) 200 pairs (breeding)	All-Ireland Importance
Grey Heron	*Ardea cinerrea*		102	All-Ireland Importance
Ringed Plover	*Charadrius hiaticula*		335	All-Ireland Importance
Bar-tailed Godwit	*Limosa lapponica*	Yes	447	All-Ireland Importance
Turnstone	*Arenaria interpres*		182	All-Ireland Importance
Sandwich Tern*	*Sterna sandvicensis*	Yes	81 Pairs	All-Ireland Importance
Common Tern*	*Sterna hirundo*	Yes	98 pairs	All-Ireland Importance
Wigeon	*Anas penelope*		1,168	All-Ireland Importance
Teal	*Anas crecca*		700	All-Ireland Importance
Shoveler	*Anas clypeata*		88	All-Ireland Importance
Golden Plover	*Pluvialis apricaria*	Yes	2,430	All-Ireland Importance
Lapwing	*Vanellus vanellus*		3,969	All-Ireland Importance
Dunlin	*Calidris alpina*		2,155	All-Ireland Importance
Curlew	*Numenius arquata*		697	All-Ireland Importance
Redshank	*Tringa totanus*		505	All-Ireland Importance
Black-headed Gull	*Chroicocephalus ridibundus*		1,941	All-Ireland Importance
Common Gull	*Larus canus*		1,066	All-Ireland Importance

* Breeding species

[A] Baseline data from I-WeBS with the exception of Light-bellied Brent Goose (Robinson et al. 2004), breeding Cormorants (Mitchell et al. 2004) and Sandwich and Common Terns (Hannon, 1996; Mitchell et al. 2004).
Selection species are highlighted in light grey, while additional SCI species are unhighlighted.

The overarching Conservation Objective for Inner Galway Bay SPA is to ensure that waterbird populations and their wetland habitats are maintained at, or restored to, favourable conservation condition. This includes, as an integral part, the need to avoid deterioration of habitats and significant disturbance; thereby ensuring the persistence of site integrity. The site should contribute to the maintenance and improvement where necessary, of the overall favourable status of the national resource of waterbird species, and continuation of their long-term survival across their natural range.

Figure 3: Proposed Site Location in relation to Inner Galway Bay SPA

Galway Bay Complex SAC:

Galway Bay Complex SAC is located on the west coast of Ireland, this site comprises the inner, shallow part of a large bay which is partially sheltered by the Aran Islands. The Burren karstic limestone fringes the southern sides and extends into the sublittoral. West of Galway city the bedrock geology is granite.

There are numerous shallow and intertidal inlets on the eastern and southern sides, notably Muckinish, Aughinish and Kinvarra Bays. A number of small islands composed of glacial deposits are located along the eastern side. These include Eddy Island, Deer Island and Tawin Island.

A diverse range of marine, coastal and terrestrial habitats, including several listed on Annex I of the E.U. Habitats Directive, occur within the site, making the area of high scientific importance, these designated habitats and species are listed in Table 2, below.

Table 2 Qualifying Interests of the Galway Bay Complex SAC

Qualifying Interests	Designation Code
Tidal mudflats and sandflats not covered by seawater at low tide	1140
Coastal Lagoons	1150
Large Shallow Inlets and Bays	1160
Reefs	1170
Perennial Vegetation of Stony Banks	1220
Vegetated Sea Cliffs of the Atlantic and Baltic Coasts	1230
Salicornia mud	1310
Atlantic Salt Meadows	1330
Mediterranean Salt Meadows	1410
Turloughs*	3180
Juniper Scrub	5130
Orchid-rich Calcareous Grassland*	6210
Cladium fens*	7210
Alkaline fens	7230
Limestone Pavement	8240
Otter (*Lutra lutra)*	1355
Common (Harbour) Seal (*Phoca vitulina)*	1365

* = priority habitats

Conservation Objectives for these habitats and species are focused on restoring favourable conservation condition to these habitats and species, and relate to the requirement to maintain habitat distribution, structure and function, as defined by characterizing (dominant) species in these habitats (NPWS, 2012a). For designated species, the objective is to maintain various attributes of the populations including population size, cohort structure and the distribution of the species in the SAC. The conservation objectives above are defined further alongside key attributes and targets within the Conservation Objectives Series (NPWS, 2012a).

Figure 4: Proposed Site Location in Relation to the Galway Bay Complex SAC

Protected Species

There are a range of protected species recorded within the surrounding 2km Grid square (M21W) of the proposed site, based on records from Biodiversity Ireland in the last ten years, including birds, cetaceans or marine mammals and terrestrial mammals.

Birds:

A number of bird species have been recorded in proximity to the proposed site (listed in Table 3 below), some of which are included as Special Conservation Interests of the Inner Galway Bay SPA and so impacts of aquaculture activities on these species has been assessed as part of the Appropriate Assessment of Aquaculture Activities in Inner Galway Bay SPA.

Table 3 Protected Bird Species Recorded within the proposed site in the last 10 Years

Common Name	Species Name	Date of last record	No. of last record	Designation
Barn Swallow	*Hirundo rustica*	31/12/2011	4	Wildlife Acts; Threatened Species Birds of Conservation Concern – Amber list
Bar-tailed Godwit	*Limosa lapponica*	31/12/2011	1	Wildlife Acts; Protected Species: EU Birds Directive - Annex I Bird Species; Threatened Species: Birds of Conservation Concern - Amber List
Black Guillemot	*Cepphus grille*	06/08/2010	3	Wildlife Acts; Threatened Species Birds of Conservation Concern – Amber list
Black-headed Gull	*Larus ridibundus*	31/12/2011	3	Wildlife Acts; Threatened Species Birds of Conservation Concern – Red list
Black-throated Diver	*Gavia arctica*	31/12/2011	3	Wildlife Acts; Protected Species: EU Birds Directive - Annex I Bird Species; Threatened Species: Birds of Conservation Concern - Amber List
Brent Goose	*Branta bernicla*	31/12/2011	2	Wildlife Acts; Threatened Species Birds of Conservation Concern – Amber list
Common Greenshank	*Tringa nebularia*	02/12/2017	2	Wildlife Acts; Threatened Species Birds of Conservation Concern – Amber list
Common Linnet	*Carduelis cannabina*	31/12/2011	3	Wildlife Acts; Threatened Species Birds of Conservation Concern – Amber list
Common Redshank	*Tringa totanus*	03/12/2017	4	Wildlife Acts; Threatened Species Birds of Conservation Concern – Red list
Common Scoter	*Melanitta nigra*	31/12/2011	1	Wildlife Acts; Protected Species: EU Birds Directive - Annex II Bird Species; Threatened Species: Birds of Conservation Concern - Red List
Common Shelduck	*Tadorna tadorna*	03/12/2017	3	Wildlife Acts; Threatened Species Birds of Conservation Concern – Amber list
Common Starling	*Sturnus vulgaris*	31/12/2011	4	Wildlife Acts; Threatened Species Birds of Conservation Concern – Amber list

Dunlin	*Calidris alpina*	31/12/2011	2	Wildlife Acts; Protected Species: EU Birds Directive - Annex I Bird Species; Threatened Species: Birds of Conservation Concern - Amber List
Eurasian Curlew ()	*Numenius arquata*	31/12/2011	2	Wildlife Acts; Protected Species: EU Birds Directive - Annex II Bird Species; Threatened Species: Birds of Conservation Concern - Red List
Eurasian Oystercatcher	*Haematopus ostralegus*	31/12/2011	4	Wildlife Acts; Threatened Species Birds of Conservation Concern – Amber list
Eurasian Teal	*Anas crecca*	31/12/2011	1	Wildlife Acts; Protected Species: EU Birds Directive - Annex II Bird Species; Threatened Species: Birds of Conservation Concern – Amber List
Eurasian Wigeon	*Anas penelope*	03/12/2017	2	Wildlife Acts; Protected Species: EU Birds Directive - Annex II Bird Species; Threatened Species: Birds of Conservation Concern – Amber List
European Golden Plover	*Pluvialis apricaria*	31/12/2011	1	Wildlife Acts; Protected Species: EU Birds Directive - Annex I Bird Species; Threatened Species: Birds of Conservation Concern - Red List
European Shag	*Phalacrocorax aristotelis*	31/12/2011	2	Wildlife Acts; Threatened Species Birds of Conservation Concern – Amber list
Great Black-backed Gull	*Larus marinus*	31/12/2011	4	Wildlife Acts; Threatened Species Birds of Conservation Concern – Amber list
Great Cormorant	*Phalacrocorax carbo*	31/12/2011	3	Wildlife Acts; Threatened Species Birds of Conservation Concern – Amber list
Great Northern Diver	*Gavia immer*	03/12/2017	3	Wildlife Acts; Protected Species: EU Birds Directive - Annex I Bird Species
Grey Plover	*Pluvialis squatarola*	31/12/2011	1	Wildlife Acts; Threatened Species Birds of Conservation Concern – Amber list
Herring Gull	*Larus argentatus*	31/12/2011	4	Wildlife Acts; Threatened Species Birds of Conservation Concern – Red list
Little Egret	*Egretta garzetta*	03/12/2017	2	Wildlife Acts; Protected Species: EU Birds Directive - Annex I Bird Species
Long-tailed Duck	*Clangula hyemalis*	31/12/2011	1	Wildlife Acts; Protected Species: EU Birds Directive - Annex II Bird Species
Merlin	*Falco columbarius*	31/12/2011	1	Wildlife Acts; Protected Species: EU Birds Directive - Annex I Bird Species; Threatened Species: Birds of Conservation Concern - Amber List
Common Gull	*Larus canus*	03/12/2017	3	Wildlife Acts; Threatened Species Birds of Conservation Concern – Amber list
Mute Swan	*Cygnus olor*	03/12/2017	3	Wildlife Acts; Threatened Species Birds of Conservation Concern – Amber list
Northern Gannet	*Morus bassanus*	31/12/2011	1	Wildlife Acts; Threatened Species Birds of Conservation Concern – Amber list
Northern Wheatear	*Oenanthe oenanthe*	31/12/2011	2	Wildlife Acts; Threatened Species Birds of Conservation Concern – Amber list
Razorbill	Alca torda	31/12/2011	2	Wildlife Acts; Threatened Species Birds of Conservation Concern – Amber list
Red-breasted	Mergus	03/12/2017	3	Wildlife Acts; Protected Species: EU

Merganser	serrator			Birds Directive - Annex II Bird Species
Ringed Plover	Charadrius hiaticula	31/12/2011	3	Wildlife Acts; Threatened Species Birds of Conservation Concern – Amber list
Sky Lark	*Alauda arvensis*	31/12/2011	4	Wildlife Acts; Threatened Species Birds of Conservation Concern – Amber list
Velvet Scoter	Melanitta fusca	31/12/2011	1	Wildlife Acts; Protected Species: EU Birds Directive - Annex II Bird Species
Whooper Swan	Cygnus cygnus	31/12/2011	1	Wildlife Acts; Protected Species: EU Birds Directive - Annex I Bird Species; Threatened Species: Birds of Conservation Concern - Amber List

Cetaceans:
Species of cetaceans seen around the Aughinish island from 31/05/20 – 31/05/21 include, Common dolphin *Delphinus delphis*, harbour porpoise *Phocoena phocoena* and bottlenose dolphin *Tursiops truncatus*. At least one instance is of a pod of 8 bottlenose dolphin, 2 instances of solo dolphins, and 2 instances of solo harbour porpoise, and two sightings of a cetacean of unknown species.

Seals:
In Ireland, two species of seal, common (Harbour) seal (*Phoca vitulina*) and grey seal *Halichoerus grypus*) are protected under the Wildlife Acts (1976 and 2000) and are listed under Annex II of the Habitats Directive as species of Community Interest, whose conservation requires the designation of SACs. The Galway Bay Complex SAC has been subject to several surveys for Harbour seals, and has returned a population of 221 common seal from an aerial survey in 2012 (Atkins, 2019). Records of both Grey seals and common seals have been recorded in the Aughinish bay to the south of Aughinish island hauled out and resting (biodiversity Ireland, Checked 01/06/21).

Terrestrial Mammals
Otter *Lutra lutra* and several bat species have been recorded within proximity of the proposed site. It can be discounted that bat species will be impacted by the proposed development. Impacts on Otter, due to its designation as a Qualifying Interest of the Galway Bay Complex SAC, have been assessed as part of the Appropriate Assessment of Aquaculture Activities in Galway Bay Complex SAC, discussed below in Section 6.

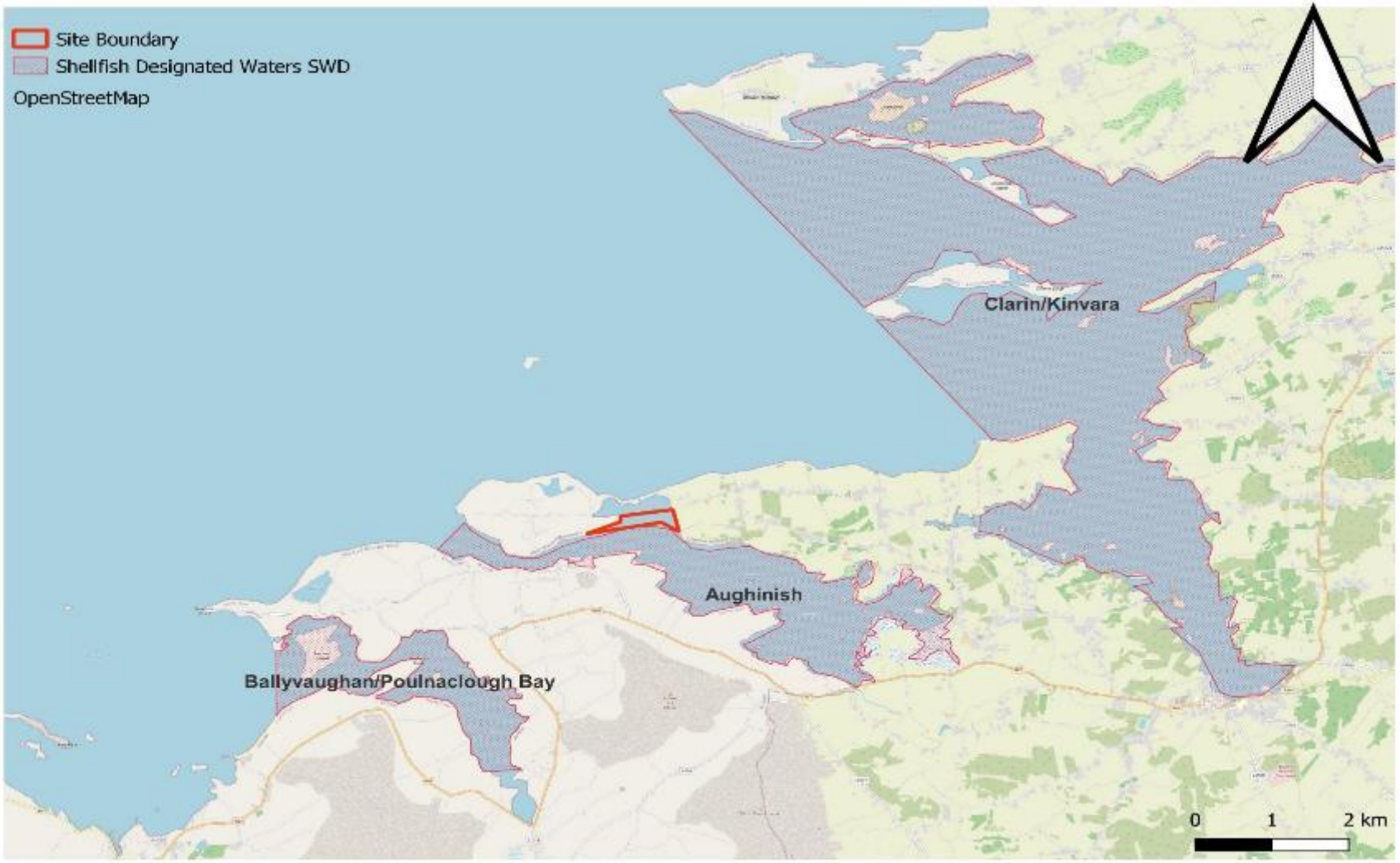
Statutory Plans

Shellfish Designated Waters:

Following the European Council Directive 79/923/EEC on the quality required of shellfish waters and the numerous subsequent amendments to this directive, a codified version was produced - Directive 2006/113/EC on the quality required of shellfish waters. This directive sets out physical, chemical and microbiological parameters and regulations for the designation and sampling of Shellfish Designated Waters to protect or improve these waters in order to support shellfish (bi-valve and gastropod molluscs) life and growth, the directive also provides for the establishment of pollution reduction programmes for designated waters and thus, contribute to the high quality of shellfish products directly edible by man.

Within Galway Bay there are four areas designated as Shellfish Waters, these are; Clarin/Kinvarra Shellfish Waters (ID No. 56), Aughinish Shellfish Waters (ID No. 53), Ballyvaughan/Poulnaclough Bay (ID No. 6) and Outer Galway Bay Indreabhan (ID No. 31). Three are located within Inner Galway Bay along the southern shore, while the fourth is located along the north shore of Outer Galway Bay, see Figure 5 below.

Figure 5: Proposed Site Location in relation to Shellfish Designated Waters



Clare County Development Plan 2017 -2023:

The Clare County Development Plan 2017-2023 was adopted on the 19th of December 2016 following a period of extensive, effective and meaningful public consultation and cooperation between the Elected Members and Executive of Clare County Council. Chapter 12 (Marine and Coastal Zone Management) of the plan indicates the importance of aquaculture to the economy of the county and the importance of safeguarding the natural environment which supports the aquaculture economy (CCDP, 2017).

Aquaculture on the Clare coast is a diverse activity and in recent years there has been an increase in the production of seaweed-based cosmetics and food production based on the harvesting of sea vegetables. Clare County Council will support such developments as a means of diversifying the economy and creating employment in coastal areas (CCDP, 2017).

Aquaculture can be highly beneficial to rural and coastal communities, bringing economic growth to areas that can otherwise be isolated from the primary employment centres. County Clare aims to take advantage of the increasing demand for aquaculture products in order to promote the economic wellbeing of the County. It is important to ensure that the benefits of the industry are balanced with environmental considerations and Clare County Council will have regard to the advice and guidance of Inland Fisheries Ireland and the Water Framework Directive Office in assessing the environmental impacts of any proposed development (CCDP, 2017).

The main objective of the Development Plan in relation to Aquaculture is: *To support and promote the sustainable development of the aquaculture sector whilst balancing environmental considerations in order to maximise its contribution to employment and growth in coastal communities.*

Aquaculture is also mentioned within Chapter 14 (Biodiversity, Natural Heritage and Green infrastructure), Section 14.3.22 - Alien and Invasive Species, where the plan notes that '*There is potential for the spread of non-native invasive species during excavation and construction works and for such species to be introduced into the environment via spreading from private gardens, boat users, aquaculture, horticulture etc. The risk of accidental transfer of the non-native invasive species requires adherence to current best practice protocol for avoiding the spread or transfer of all invasive animals and plants'.*

Water Quality Status

Water Quality within Galway Bay is monitored by the Environmental Protection Agency, EPA. The latest round of monitoring data outside of the Water Framework Directive for Coastal Water Quality is the 2010 – 2012 monitoring period. Outer Galway Bay, as well as Inner Galway Bay North and South have all been classified as 'Unpolluted' within this monitoring period. Aughinish Bay, located to the south of the proposed site is classified as 'Unassigned' for this monitoring period.

5.5 Man-made heritage

A search of the Historic Environment Viewer (Archaeological Survey of Ireland) (https://maps.archaeology.ie/HistoricEnvironment/) [Accessed on 05/07/2021] identified a number of purely land based features of historical importance in the immediate area of the Bay as listed below;

- Martello Tower (Reg. No. 20400351) – located on the north-eastern shore of Aughinish Island.
- Midden Heap – located on the north-western shore of Aughinish Island.
- Megalithic Tomb – wedge tomb – located on Aughinish Point, the western most point of Aughinish Island.
- Midden Heap – located on the south-western shore of Aughinish Island.
- Church and Ecclesiastical enclosure – located on the south-western shore of Aughinish Island.
- Children's burial ground – located in the south of Aughinish Island.
- Ringfort – rath – located to the east of the proposed site on the Aughinish peninsula.

A search of the WreckViewer application https://www.archaeology.ie/underwater-archaeology/wreck-viewer [Accessed 04/06/21] found that there were no recorded wrecks within Aughinish Bay. The closest recorded wreck is located to the east of the proposed site in Blackhead/ Ballyvaughan Bay. The majority of shipwrecks are located along the northern portion of Galway Bay, in proximity to Galway City.

6.0 Section 61 Assessment

6.1 Site Suitability

Aughinish Bay forms part of the wider Inner Galway Bay complex, which is designated as both Inner Galway Bay SPA (004031) and Galway Bay Complex SAC (000268). Aughinish Bay is also designated as one of Galway Bay's Shellfish Designated Waters, which encompasses the entirety of Aughinish Bay.

Galway Bay is currently utilised as an area for existing aquaculture activities, although no aquaculture activities are currently being carried out within Aughinish Bay itself there are significant levels of cultivation within Ballyvaughan Bay to the south-west and Kinvarra Bay to the East. This in combination with the designation of Aughinish Bay as Shellfish Waters indicates that the waters within Galway Bay and Aughinish Bay are considered suitable for aquaculture.

The proposed aquaculture site (T08/115A) is located on intertidal mud and sandflats, on the northern shore of Aughinish Bay. The upper and middle shores of the proposed site location contain large and medium sized boulders, which may inhibit or require removal/ movement to enable the placement of equipment in line with the submitted site layout drawings.

An Appropriate Assessment has been carried out on aquaculture activities within the Galway Bay Complex SAC (MI, 2019) and within the Inner Galway Bay SPA (Atkins, 2019), the conclusions and recommendations of these are discussed further is Section 6.3, below.

The appellant has applied for a licence for the cultivation of both native and pacific oysters using multiple methods including; trestle and bag, float and bag, moulded baskets and longlines.

The proposed site is considered to be only partially suitable for some methods of aquaculture. Consideration should be given to both the location of the site in an intertidal area, where longline cultivation is likely to be problematic and the potential for modification of the existing substrates and habitats, through the movement of boulders to accommodate aquaculture structures such as trestles and vehicular access.

The access route proposed within the initial licence application traverses an adjacent public laneway/ track located to the east of the proposed site. This laneway provides direct access onto the foreshore from local roads. The end of this laneway, where it meets the foreshore, is comprised of small-large size boulders of varying sizes. Access to the proposed site through this access point will likely require the removal or movement of at least some of these boulders to enable safe access for husbandry and set-up activities.

6.2 Other uses

Due to the location of the proposed site in a remote rural area and the existing habitats onsite it is considered that the proposed site location holds little value for marine recreational activities, with the amenity value of the area being limited to scenic views and shore-based recreational activities.
A private ownership claim to an oyster bed supposedly within the bounds of the proposed site had been submitted to the Aquaculture and Foreshore Management Division of the DAFM subsequent to the period of public consultation of the initial licence application. No details of this claim were provided to the appellant upon request or to the ALAB as part of the minister's file. The AFMD of the DAFM have stated that this claim was not investigated further due to fact that the proposed site was already being considered for refusal for separate reasons, those being the presence of the native oyster and the invasive seaweed *Sargassum muticum*, and the questionable suitability of the site for the proposed methodologies.

It is considered that if the proposed site is to be considered for licensing by the ALAB that further information relating to this private ownership claim should be requested from the Aquaculture and Foreshore Management Division of the DAFM.

6.3 Statutory Status

The proposed aquaculture site is located adjacent to, with some minor overlap of, the Aughinish Shellfish Designated Waters (ID No. 53), which is located directly to the south of the proposed site.

This is not considered to be a significant constraint as the proposed site will be fed directly by waters within the Aughinish SDW and a number of existing licensed aquaculture sites within Galway Bay are located farther outside Shellfish Designated Waters.

The proposed aquaculture site is located within the bounds of the Galway Bay Complex SAC and Inner Galway Bay SPA. An Appropriate Assessment (MI, 2019; Atkins, 2019) and Appropriate Assessment Conclusion Statement (DAFM, 2020) has been produced by the DAFM in relation to aquaculture activities in both the Galway Bay SAC and SPA, details of these are outlined below.

Galway Bay Complex SAC

The Appropriate Assessment screening exercise resulted in a number of habitat features being excluded from further consideration by virtue of the fact that no spatial overlap of the culture activities was expected to occur.

The habitats and species excluded from further consideration were:
- 1150 Coastal lagoons
- 1220 Perennial vegetation of stony banks
- 1310 Salicornia and other annuals colonising mud and sand
- 1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

- 1410 Mediterranean salt meadows (*Juncetalia maritimi*)

A full assessment was carried out on the likely interactions between aquaculture operations (as proposed) and the features Annex 1 habitats Mudflats and sandflats not covered by seawater at low tide (1140), Large Shallow Inlets and Bay (1160) and Reefs (1170). The likely effects of the aquaculture activities were considered in light of the sensitivity of the constituent communities of these Annex 1 habitats (MI, 2019), see Table 4, below.

Table 4 Annex I Habitat Appropriate Assessment Conclusions

	Annex I Habitat Conclusions
Conclusion 1	Aquaculture activity is deemed disturbing on two community types, Maërl-dominated community and Zostera-dominated community complex. All efforts should be made to avoid overlap with these sensitive areas and a suitable buffer zone be applied in order to allow for mapping anomalies and enforcement measures.
Conclusion 2	The presence of non-native sea-squirt species *Didemnum* sp. in Galway Bay is acknowledged and in particular is associated with structures used to culture oysters (trestles). Best practice should be employed to ensure that structures and netting are kept clean at all times and that any biofouling be dealt and disposed of in a responsible manner such that it is removed from the marine environment and does not pose a risk to the conservation features of the site.
Conclusion 3	Current levels of feral Pacific oyster recruitment in Galway Bay are considered relatively low, however, it is recommended that operators be encouraged to increase their use of triploid oysters in order to mitigate the risk of successful reproduction.
Conclusion 4	It is recommended that acceptable sources of seed (in terms of alien species risk) are identified for aquaculture culture operations and that all future movements of all shellfish stock (mussels, oysters and clams) in and out of Galway Bay Complex SAC should adhere to relevant fish health legislation and follow best practice guidelines.

The Appropriate Assessment also assessed the likely interactions between the proposed aquaculture activities and the Annex II Species Harbour Seal (*Phoca vitulina*) and Otter (*Lutra lutra*). The objectives for these species in the SAC focus upon maintaining the good conservation status of the population. It was concluded that the activities proposed in the areas that potentially overlap with otter habitat do not pose a threat to the conservation status of this species. It was acknowledged in this assessment that the favourable conservation status of the Harbour seal (*Phoca vitulina*) has been achieved given current levels of aquaculture production within the SAC. The aspect of the culture activities that could potentially disturb the Harbour seal status was considered to relate to movement of people and vehicles within the sites as well as accessing the sites over intertidal areas and via water. The conclusions arrived at are outlined in Table 5 below.

Table 5 Annex II Species Appropriate Assessment Conclusions

	Annex II Species Conclusions
Conclusion 1	The current levels of licenced aquaculture (existing) are considered non-disturbing to harbour seal conservation features in all areas of the SAC. Operators should note sensitive times of years for seals and continue to tailor their activities to minimise potential disturbance.
Conclusion 2	In relation to new licence applications, given the potential broad range of Harbour Seal within the SAC, the risk of disturbance to Harbour Seals should be assessed on the basis of the nature of the culture type and location relative to seal sites. For example, a site may pose a greater risk of disturbance than others on the basis of blocking potential egress routes available to seals and the proposed levels of activity at the sites.
Conclusion 3	The aquaculture activities proposed do not pose a threat to otter in the Galway Bay Complex.

It is considered that the proposed site is not in proximity to any areas mapped as sensitive Maerl or *Zostera* habitat, with the closest mapped location being on the northern side of the Aughinish peninsula directly north of the proposed site. It is also considered that Conclusion 2, 3 & 4, in Table 4 above, relating to invasive species and acceptable Triploid seed can be dealt with via licencing conditions relating to the movement of stock and equipment in and out of the site and the sourcing of seed.

It is also considered that the proposed site is not in close proximity to any areas mapped as by important breeding, resting or haul out sites for harbour seal and therefore is not considered to pose a significant risk of disturbance.

Inner Galway Bay SPA

An Appropriate Assessment report assessing aquaculture activities within the Inner Galway Bay SPA covered a number of both non-breeding/ wintering and breeding species, listed in Table 6 below.

It should be noted by the Board of ALAB that no further consideration was given by the DAFM to the conclusions of the Appropriate Assessment of Aquaculture Activities within Inner Galway Bay SPA, which concluded that potentially significant negative impacts may occur on two SCI species Light-bellied Brent Goose and Curlew due to the proposed site.

This is a significant matter as the conclusion of a potentially significant negative impact on SCIs protected under the SPA should be a contributing factor to the decision-making process for the aquaculture licence application. It is not clear why these conclusions were not taken onboard during the application process; however the Board is obliged to take note of them as any proposed development which has a potential significant negative impact on a Natura 2000 site can only be granted if the potential impacts can be mitigated for or the project qualifies under IROPI grounds (Imperative Reasons of Overriding Public Interest), which it does not.

Table 6 Waterbird Species Assessed as part of the Appropriate Assessment Process

Common Name	Species Name	Designated Site
Light-bellied Brent Goose	*Branta bernicla hrota*	Wintering - Inner Galway Bay SPA
Wigeon	*Anas penelope*	Wintering - Inner Galway Bay SPA Wintering – Rahasane Turlough SPA
Teal	*Anas crecca*	Wintering - Inner Galway Bay SPA
Shoveler	*Anas clypeata*	Wintering - Inner Galway Bay SPA Wintering - Lough Corrib SPA
Golden Plover	*Pluvialis apricaria*	Wintering - Inner Galway Bay SPA Wintering – Rahasane Turlough SPA
Lapwing	*Vanellus vanellus*	Wintering - Inner Galway Bay SPA
Ringed Plover	*Charadrius hiaticula*	Wintering - Inner Galway Bay SPA
Curlew	*Numenius arquata*	Wintering - Inner Galway Bay SPA
Bar-tailed Godwit	*Limosa lapponica*	Wintering - Inner Galway Bay SPA
Turnstone		Wintering - Inner Galway Bay SPA
Dunlin	*Calidris alpina*	Wintering - Inner Galway Bay SPA
Redshank	*Tringa totanus*	Wintering - Inner Galway Bay SPA
Black-headed Gull	*Larus ridibundus*	Wintering - Inner Galway Bay SPA
Cormorant	*Phalacrocorax carbo*	Breeding - Inner Galway Bay SPA
Sandwich Tern	*Sterna sandvicensis*	Breeding - Inner Galway Bay SPA
Common Tern	*Sterna hirundo*	Breeding - Inner Galway Bay SPA
Common Scoter	*Melanitta nigra*	Breeding - Lough Corrib SPA;
Common Gull	*Larus canus*	Wintering - Inner Galway Bay SPA Breeding - Lough Corrib SPA
Black-tailed Godwit	*Limosa limosa*	Wintering - Rahasane Turlough SPA.

It was concluded that full development of the application aquaculture sites, at the time of writing of the Appropriate Assessment, may cause significant displacement impacts to a number of species covered by the assessment, particularly Light-bellied Brent Goose, Ringed Plover and Curlew. This impact was mainly due to two large

application aquaculture sites on either side of the Aughinish Island causeway, including the appealed site T08/115A and another site T09/519A, which proposed to occupy the main areas of intertidal and shallow subtidal habitat within the Aughinish I-WeBS Subsite (0H449). This potential impact is explored further below.

The site visit which accompanied the Appropriate Assessment noted that the bay within which the appealed site (T08/115A) is proposed to be located is mapped as having Fucoid dominated community complex located on the Upper shore however the site visit found that cover of this habitat was extensive across the bay. This is important to note as this habitat is an important foraging resource for many waterbirds which utilise this area.

The Appropriate Assessment of Aquaculture activities within Inner Galway Bay SPA identified several potential impacts to waterbird species which utilise the area, these include both displacement and disturbance impacts

Displacement and Disturbance Impacts

The Appropriate Assessment concluded that six species had potentially significant displacement impacts calculated across the SPA in at least one dataset which approached or exceeded the 5% threshold for displacement set by the NPWS. These figures and species-specific conclusions are provided in Tables 7 & 8 below. Subsite-specific displacement calculations were also conducted for both licensed and licensed and application sites, in the Aughinish I-WeBS subsite (0H449), shown in Table 9, below.

Table 7 Calculated Cumulative Potential Displacement for all Aquaculture Activities to the SCI species included in the Assessment (Atkins, 2019).

Common Name	Calculated % Displacement impact 2006/07-2010/11	Calculated % Displacement impact 2011/12-2016/17
Light-bellied Brent Goose	6%	5.7%
Wigeon	2%	1.7%
Teal	2.1%	2.3%
Shoveler	3%	NC
Golden Plover	2.0%	4.8%
Lapwing	1.1%	5.4%
Ringed Plover	5.9%	1.9%
Curlew	5.6%	6.5%
Bar-tailed Godwit	2.1%	3.2%
Turnstone	0.3%	0.1%
Dunlin	2.7%	2.8%
Redshank	0.3%	0.3%
Black-headed Gull	1.1%	3.4%
Common Gull	4.6%	2.3%

Table 8 Potentially Significantly Impacted Waterbird Species Conclusions (Akins, 2019)

Common Name	Conclusions
Light-bellied Brent Goose	The flock maps from the NPWS Waterbird Survey Programme 2009/10 indicate that the main areas this species occurred directly overlapped with the appealed site (T08/115A) and another large application site (T09/519A) located on either side of the Aughinish Island Causeway. It was considered that while, Light-bellied Brent Goose can have a positive response to oyster trestle cultivation, this is largely due to birds feeding on the green algae that build up on the bags. The main proposed cultivation methods in these sites are likely to result in lower levels of green algae as the bags are turned twice a day by the tide, rather than requiring manual turning of the bags that takes place at much longer intervals. Therefore, the apparent positive response of Light-bellied Brent Goose to bag and trestle cultivation in some sites may not be applicable to the hanging bag and hanging baskets methods proposed for the sites in question, including the appealed site.
Golden Plover	Due to a single count in the Aughinish subsite in the 2011/12-2016/17 dataset which represented c.70% of the total count of each species, it was considered that the calculated displacement impact for Golden Plover and Lapwing from the 2006/07-2010/11 dataset provides a more reliable indication of the likely overlap between Golden Plover and Lapwing distribution and the aquaculture sites in question including the appealed site.
Lapwing	
Ringed Plover	The calculated displacement impact for Ringed Plover from the 2006/07-2010/11 dataset was much higher than from the 2011/12-2016/17 dataset. This reflects much more frequent occurrence in the Aughinish subsite group in the 2006/07-2010/11 dataset (9 out of 12 qualifying counts) compared to the 2011/12-2016/17 dataset (1 out of 7 qualifying counts). The main potential impact on Ringed Plover was considered to be isolated to the northern side of the causeway where there is an extensive area of sandy intertidal habitat, the species' preferred habitat. This habitat does not occur on the southern side of the causeway where the appealed site (T08/115A) occurs and therefore the potential for significant impacts on this species is likely to be lower than documented.
Curlew	The calculated displacement impacts for Curlew were very similar between the two datasets, reflecting the predictable nature of this species distribution patterns. Curlew generally has a dispersed distribution pattern across intertidal habitat and its large-scale distribution patterns across Inner Galway Bay indicates that it occurs at fairly uniform densities. Within the Aughinish subsite the flock maps from the NPWS WSP survey indicate that the main areas of occurrence were either side of the Aughinish Island causeway, reflecting the fact that these areas hold the largest amount of intertidal habitat within the subsite. However, Curlew appears to have a variable response to oyster trestle cultivation and, even when the response is negative, is not completely excluded. Therefore, the calculated displacement impacts probably overestimate the actual displacement impact that would occur from development of the aquaculture sites.
Common Gull	The calculated displacement impact for Common Gull from the 2006/07-2010/11 dataset was close to the 5% threshold, while the calculated displacement impact from the 2011/12-2016/17 dataset was around 50% lower. This reflects the much lower level of occurrence in the Aughinish subsite group in the 2011/12-2016/17 dataset. The relatively high level of occurrence in the Aughinish subsite group in the 2006/07-2010/11 dataset was not due to one or two exceptional counts. Therefore, the difference may reflect a real change in occurrence patterns, although there does not appear to have been an

	obvious change in overall Common Gull numbers in Inner Galway Bay. In the Aughinish subsite group, the flock maps from the WSP survey indicate that the main area of occurrence was on the southern side of the Aughinish Island causeway, overlapping the appealed site T08/115A. Common Gull appears to have a variable response to oyster trestle cultivation and, even when the response is negative, is not completely excluded. Therefore, the calculated displacement impacts probably overestimate the actual displacement impact that would occur from development of the aquaculture sites.

Table 9 Subsite-specific Potential Cumulative Displacement Impact (Atkins, 2019).

Species	Analysis	Subsite – Aughinish 2006/07 – 2010/11	Subsite – Aughinish 2011/12 – 2016/17
Light-bellied Brent Goose	All (licensed and application)	3.6%	3.4%
Wigeon	All (licensed and application)	0.9%	1.0%
Teal	All (licensed and application)	0.2%	1.4%
Shoveler	All (licensed and application)	0.1%	0.0%
Ringed Plover	All (licensed and application)	5.2%	2.0%
Golden Plover	All (licensed and application)	1.1%	2.2%
Lapwing	All (licensed and application)	0.1%	6.1%
Dunlin	All (licensed and application)	1.9%	0.3%
Bar-tailed Godwit	All (licensed and application)	1.6%	4.6%
Curlew	All (licensed and application)	4.1%	2.2%
Redshank	All (licensed and application)	0.0%	0.0%
Turnstone	All (licensed and application)	0.0%	0.0%
Black-headed Gull	All (licensed and application)	0.5%	0.3%
Common Gull	All (licensed and application)	3.4%	3.1%

A number of species with non-significant but non-negligible calculated displacement impacts (i.e. well below the 5% threshold but not insignificant), were also considered due to uncertainties in the calculated displacement impacts of these species, these are discussed in Table 10, below.

Table 10 Waterbird Species with a Non-significant but Non-negligible calculated Displacement Impact

Common Name	Conclusions
Wigeon	The NPWS WSP flock map data indicates that the overall distribution of Wigeon and Teal is associated with sheltered bays and the fucoid-dominated community complex, which is the dominant habitat in the middle and upper shores within the bounds of the proposed site (T08/115A).
Teal	
Shoveler	The calculated displacement impact for Shoveler from the 2006/07-2010/11 dataset was 3%, but the calculated displacement impact for the 2011/12-2016/17 dataset was 0%. This reflects the decline in Shoveler numbers in Inner Galway Bay with most birds occurring in Ahapouleen Turlough during the I-WeBS counts in the 2011/12-2016/17 dataset.
Bar-tailed Godwit	At the time of writing it was considered that the application aquaculture sites in the Aughinish subsite were the main contributors to the calculated displacement impacts for Bar-tailed Godwit, Dunlin and Black-headed Gull. The large site on the northern side of the Aughinish Island causeway (T09/519A) occupies a large sandy bay, which is likely to be particularly suitable for these species. However, the extensive Fucus cover in the site on the southern side of the Aughinish Island causeway (T08/115A) may reduce the suitability of that site for these species.
Dunlin	
Black-headed Gull	

The Appropriate Assessment considered that husbandry activity in oyster trestle cultivation sites takes place at low tide, so this activity and associated access to/from the sites will not cause disturbance to high tide roosts. However, all the other aquaculture activities included in the assessment (including hanging bag, hanging basket and floating tray oyster cultivation) may involve husbandry activity around the high tide period, leading to potential disturbance of high-tide roost locations.

Table 11 Inner Galway Bay SPA Appropriate Assessment Conclusions and Technical Advisor Comments

	Conclusion	TA Comments
Conclusion 1	Full development of the existing licensed sites is unlikely to cause significant displacement impacts to any of the species covered by this assessment.	The Appropriate Assessment has shown that at the existing levels within Galway Bay, aquaculture activities are considered unlikely to cause significant disturbance or displacement.
Conclusion 2	Full development of the application sites may cause significant displacement impacts to a number of species covered by this assessment, particularly Light-bellied Brent Goose, Ringed Plover and Curlew. This is mainly due to the two large sites on either side of the Aughinish Island causeway (T08/115A and T09/519A).	The proposed site (T08/115A) is located on the southern side of the Aughinish Causeway, which has been noted for significant numbers of both Brent Goose and Curlew, with the majority of Ringed Plover being located on the northern side of the causeway on open sandflat habitat. Therefore, it is considered that full development of the proposed site T08/115A may have a significant impact on Brent Goose and Curlew populations within the Inner Galway Bay SPA but not Ringed Plover.
Conclusion 3	The significance of potential disturbance impacts arising from boat movements to Red-breasted Merganser, roosting Great Northern Diver and high tide waterbird roosts cannot be fully assessed at this stage due to the lack of detailed information about the timing and intensity of husbandry activity and associated use of access routes. However, to minimise impacts to Great Northern Diver it is proposed that boat activity be restricted around one hour before dusk to shortly after dawn, while it is proposed that the proximity of boat movements to high tide roosts should be restricted to avoid disturbance to roosting birds.	The Appropriate Assessment considered that husbandry activity in oyster trestle cultivation sites takes place at low tide, so this activity and associated access to/from the sites will not cause disturbance to high tide roosts. However, all the other aquaculture activities included in the assessment (including hanging bag, hanging basket and floating tray oyster cultivation, which are proposed as part of the proposed site T08/115A) may involve husbandry activity around the high tide period, leading to potential disturbance of high-tide roost locations. There is a significant hightide roost site in close proximity to the north-west corner of the proposed site, therefore the proposed site has the potential to negatively impact this roost site through husbandry and access activities at high tide, although the initial application indicated that only tractor access will be utilised and this could not be carried out during high tide and so this potential disturbance can be discounted.

Updated Potential Displacement Impacts

As noted in the Tables above Light-bellied Brent Goose and Curlew have been identified within the Appropriate Assessment as having potentially significant calculated cumulative displacement impacts (i.e. > or = 5%). This was due to the presence of the appealed site (T08/115A) and another much larger application aquaculture site (T09/519A (79ha)) (which was refused by the DAFM at the same time as the appealed site), both of which were located within the I-WeBS Aughinish subsite (0H449).

The Aughinish I-WeBS subsite covers an approximate area of 233ha, encompassing c.152ha of intertidal and c.81ha of shallow subtidal habitat. Currently there are 2 licensed subtidal mussel aquaculture sites (T09/424 & T09/512) encompassing 4.75ha, and 1 licensed intertidal oyster site (T09/501) encompassing 4.9ha, within the bounds of the Aughinish subsite. Updated potential cumulative displacement calculations within the Aughinish I-WeBS subsite have been provided in Table 13 below, including the above licensed sites and the proposed appealed site.

Table 12 Aughinish I-WeBS subsite Aquaculture Occupied Area

Subsite	Total Habitat Area (ha)	Total Licensed Aquaculture Area (ha)	Total Proposed & Licensed Aquaculture Area (ha)	Occupied % of Subsite
Aughinish - Intertidal	152	4.9	21.9	14.4
Aughinish - Subtidal	81	4.75	5.5	6.7

Table 13 Calculated Potential Displacement Impact of Licensed and the Appealed Site within the Aughinish I-WeBS Subsite.

Species	Analysis	Subsite – Aughinish 2006/07 – 2010/11	Subsite – Aughinish 2011/12 – 2016/17
Light-bellied Brent Goose	Licensed and the appealed site	1.7%	1.5%
Curlew	Licensed and the appealed site	1.9%	1.0%

The updated displacement calculations within the Aughinish I-WeBS subsite incorporating all licensed aquaculture sites and the appealed aquaculture site highlights that with the inclusion of the proposed aquaculture site the displacement impacts do not reach the 5% significance threshold for displacement for either of the species assessed.

Table 14 Calculated Potential Displacement Impact of Licensed and the Appealed Site within the Inner Galway Bay SPA

Species	Analysis	Inner Galway Bay SPA 2006/07 – 2010/11	Inner Galway Bay SPA 2011/12 – 2016/17
Light-bellied Brent Goose	Licensed and the appealed site	3.63%	3.45%
Curlew	Licensed and the appealed site	3.39%	3.93%

From the recalculated potential displacement impact, in Tables 12 & 14 above, it is evident that with the inclusion of the appealed site the potential displacement impacts do not reach the 5% significance threshold for displacement within the SPA for either of the species assessed. Although it should be noted that a large portion of the total potential displacement for the SPA is located within the Aughinish subsite and is due in the main part to the proposed appealed site. This potential displacement although below the 5% threshold for significance set by the NPWS is not insignificant in itself.

The flock maps from the NPWS Waterbird Survey Programme 2009/10 indicate that the main areas Light-bellied Brent Goose occurred directly overlapped with the appealed site (T08/115A). It was considered that while, Light-bellied Brent Goose can have a positive response to oyster trestle cultivation, this is largely due to birds feeding on the green algae that build up on the bags. The main proposed cultivation methods in the appealed site is likely to result in lower levels of green algae as the bags are turned twice a day by the tide, rather than requiring manual turning of the bags that takes place at much longer intervals. Therefore, the apparent positive response of Light-bellied Brent Goose to bag and trestle cultivation in some sites may not be applicable to the hanging bag and hanging baskets methods proposed for the site in question.

Curlew generally has a dispersed distribution pattern across intertidal habitat and its large-scale distribution patterns across Inner Galway Bay indicates that it occurs at fairly uniform densities. Within the Aughinish subsite the flock maps from the NPWS WSP survey indicate that the main areas of occurrence were either side of the Aughinish Island causeway, reflecting the fact that these areas hold the largest amount of intertidal habitat within the subsite.

However, Curlew appears to have a variable response to oyster trestle cultivation and, even when the response is negative, is not completely excluded. Therefore, the calculated displacement impacts probably overestimate the actual displacement impact that would occur from development of the aquaculture sites.

6.4 Economic effects

It is the considered opinion of the advisor that the operation of these sites could provide a positive effect to the local and regional economy. Through the provision of year-round employment, provision of local produce to local markets and indirectly through the provision and development of a long-term sustainable business providing investment capital to the region.

6.5 Ecological Effects

Particle Suspension/ Benthic Communities

Oysters are filter feeders which feed on suspended particulate matter. They selectively ingest phytoplankton and other organic material (e.g. small zooplankton and bacteria) and dispose of inorganic and larger organic matter in pseudofaeces, which is excreted into the water column. Typically, the faecal and pseudofaecal pellets will fall to the sea floor and may cause localised organic enrichment. The level of enrichment is a

function of, inter alia, density of culture, water depth, current speed, the quantity of suspended particulate matter in the water column, or a combination of these.

Where some enrichment (from biodeposition) in the water can be beneficial, over enrichment can be detrimental and can lead to a change in the natural biogeochemistry reducing natural/ native species richness and at times anoxic conditions can occur proving fatal to local organisms.

It is the considered opinion of the technical advisor that the appealed site will not pose a significant impact on the benthic communities or the overall biodiversity of the site, where this site is the only aquaculture site within the Bay and the build-up of excess organic matter beyond the footprint of the site is not considered likely.

Introduction of Non-native Species

The movement of seed, stock and equipment in and out of the water and through transfer or import can encourage the transport of non-native and/ or invasive species either though the introduction via seed and/ or from vehicles or equipment moving between sites.

When the seed is sourced locally (e.g. suspended mussel culture) the risk is likely zero. When seed is sourced at a small size from hatcheries in Ireland the risk is also small. When seed is sourced from hatcheries outside of Ireland (this represents the majority of cases particularly for oyster culture operations) the risk is also considered small, especially if the nursery phase has been short. When ½-grown stock (oysters and mussels) is introduced from another area (e.g. France, UK) the risk of introducing alien species (hitchhikers) is considerably greater given that the stock will have been grown in the wild for a prolonged period (i.e. ½-grown stock) (MI, 2019).

Furthermore, the culture of a non-native species (e.g. the Pacific Oyster - Crassostrea gigas) also presents a risk of establishment of this species in the SAC. Recruitment of C. gigas has been documented in a number of bays in Ireland (including Inner Galway Bay) and appears to have become naturalised (i.e. establishment of a breeding population) in two locations (Kochmann et al 2012; 2013).

The use of triploid (putatively non-reproducing) stock is the main method employed to manage this risk of successful reproduction, however only 17% of the oyster seed brought into Galway Bay is triploid.

The structures used for culture of shellfish (subtidal and intertidal) may facilitate the introduction and establishment and of some non-native species. The non-native invasive sea-squirt *Didemnum vexillum* has been recorded on aquaculture structures (trestles) in Galway Bay. This invasive species has been implicated in harm to habitats and species (Valentine et al, 2007) in addition to aquaculture activities, particularly at earlier culture stages. While the movement of shellfish stock may facilitate the spread of this species, most occurrences in Ireland and the UK appear have been associated with marinas and vessel movements.

The non-native invasive seaweed Japanese wireweed *Sargassum muticum* has been extensively recorded within the bounds of the proposed aquaculture site. Japanese wireweed is an invasive brown-algae, which was first recorded in Ireland in Strangford Lough in 1998. The species is now ubiquitous across the southern and western coastline of Ireland. The transplantation of oyster seed from infected regions of Europe and the transportation of fertile fronds by currents or by boats or ships are believed to be the most likely sources of inoculation to new areas. The species growth habitat, on the surface of the water, can impede boat traffic and swimmers; it can also cut down light penetration to underwater communities. The reduction in light and space on the sea floor may lead to localised reduction in native species including *Zostera* (eelgrass)

Shading

Oysters, as filter feeders, can alter the zooplankton and phytoplankton abundance and communities in the water column and therefore the overall productivity of a site. It may decrease the turbidity of the water, increasing light penetration through the water column. This increase in light penetration may be beneficial to some species such as eel grass (Zostera spp.). Conversely, the proposed equipment (i.e. trestles and bags or hanging baskets) may cause shading to the seabed, decreasing the light penetration, thereby negatively impacting the growth of vegetation such as eelgrass.

It is the considered opinion of the advisor that the appealed sites will not pose a significant impact on the vegetative benthic communities, where this site is the only aquaculture site within the Bay and sensitive eelgrass communities are not recorded within or adjacent to the bounds of the site, thereby these vegetative communities will not be negatively impacted by the proposed development.

6.6 General Environmental Effects

It is considered that the proposed application will not pose significant environmental effects within Aughinish Bay and within Inner Galway Bay other than those highlighted in Section 6.3 & 6.5. There are no predicted impacts from pollution sources or changes to hydrological functioning of the site as a whole (including freshwater influences).

6.7 Effect on man-made heritage

There is no predicted direct impact on recorded terrestrial or marine man-made heritage sites located around Aughinish Island. It has been noted that potential indirect effects will occur to the Martello Tower due to the exposed nature of the site in relation to the access road to Aughinish Island and the potential negative visual impact on visitors to the area.

This is not considered a significant impact due to the nature of the proposed site only being visible for 2-3 hours either side of low-tide (depending on the tides) thus reducing the potential impact.

6.8 Section 61 Assessment Conclusions

Site Suitability

The site under appeal is considered only partially suitable for the intended purpose for the following reasons;

1. The proposed site T08/115A is located within an area (Galway Bay) currently utilised for aquaculture activities and directly adjacent to Aughinish Shellfish Designated Waters, leading to the conclusion that the proposed site is likely viable for the cultivation of shellfish.

2. The upper and middle shores of the proposed site location contain large and medium sized boulders, which may inhibit or require removal/ movement to enable the placement of equipment in line with the submitted site layout drawings. Consideration should be given to the potential for modification of the existing substrates and habitats, through the movement of boulders to accommodate aquaculture structures such as trestles and vehicular access.

Other Uses

The proposed development has a no impact on the possible other uses or users of the area for the following reasons;

1. *The proposed site is not located within an area known to be frequently utilised by marine recreation or leisure activites.*

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

1. A private ownership claim to an oyster bed supposedly within the bounds of the proposed site had been submitted to the Aquaculture and Foreshore Management Division of the DAFM, It is considered that if the site is to be proposed for licensing by the ALAB that that further information relating to this private ownership claim should be requested from the Aquaculture and Foreshore Management Division of the DAFM.

2. During a site inspection by the MED in July 2020, a local seaweed harvester was encountered who advised the MED inspector that there are traditional rights for seaweed harvesting at the proposed site. These traditional rights for the area have not been confirmed.

Statutory Status

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

1. It is considered that the proposed site is not in proximity to any areas mapped as sensitive Maerl or Zostera habitat, with the closest mapped location being on the northern side of the Aughinish peninsula directly north of the proposed site.

2. Intertidal oyster trestle culture activities do not pose a risk of significant disturbance to the Qualifying Interests of the Galway Bay Complex SAC

3. Updated displacement impact calculations have shown that the potential displacement for Light-bellied Brent Goose and Curlew is below the 5% significance threshold, in both datasets used for the analysis, at both the subsite and SPA level.

Economic effects

There is a significant positive effect on the economy of the area for the following reasons:

1. Through local employment over the operation of the site

2. Through expansion of a local business providing employment and generating indirect revenue for the local economy

3. Through attracting capital investment opportunities to the rural community

Ecological Effects

There is a non-significant effect on the natural habitats, wild fisheries and fauna and flora of the area as a result of the proposed operation for the following reasons;

1. Intertidal oyster trestle culture activities do not pose a risk of significant disturbance to the Qualifying Interests of the Galway Bay Complex SAC

2. The build-up of faeces and pseudofaeces is considered unlikely due to the rate of tidal exchange within the Bay.

3. Habitat community types sensitive to shading such as Zostera beds are not reported from within the proposed site location

There is a potential significant negative effect on the natural habitats, wild fisheries and fauna and flora of the area as a result of the proposed operation for the following reasons;

1. The upper and middle shores of the proposed site location contain large and medium sized boulders, which may inhibit or require removal/ movement to enable the placement of equipment in line with the submitted site layout drawings. Consideration should be given to the potential for modification of the existing substrates and habitats, through the movement of boulders to accommodate aquaculture structures such as trestles and vehicular access.

2. The movement of oysters in and out of the water can encourage the transport of non-native and / or invasive species either though the introduction via seed and / or from boats/ equipment moving between areas. The movement of stock in and out of Galway Bay should adhere to relevant fish health legislation and follow best practice guidelines as per the updated licencing conditions for aquaculture licences.

General Environmental Effects

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

1. Pollution of the site is not predicted from the processing of the new site

2. No hydrological effects are predicted from the processing of the new site

3. The biodeposition of pseudofaeces outside the boundary of the proposed site is not considered likely

Man-made Heritage

There is a potential indirect negative effect on the man-made heritage of value in the area as a result of the proposed operation for the following reasons;

1. Due to the open nature of the access route to Aughinish Island and the visual impact of the proposed development on scenic and heritage amenities. This is not considered a significant effect due to the intertidal nature of the proposed site, which limits the period of time the site will be visible from the Aughinish Causeway.

6.9 Confirmation re Section 50 Notices

It should be noted by the Board of ALAB that no further consideration was given by the DAFM to the conclusions of the Appropriate Assessment of Aquaculture Activities within Inner Galway Bay SPA, which concluded that potentially significant negative impacts may occur on two SCI species Light-bellied Brent Goose and Curlew due to the proposed site. Following updated potential displacement calculations, shown in Tables 12 & 14 above, the potential displacement of these species was below the 5% threshold for significance set by the NPWS, at both the subsite and SPA level.

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

7.0 Screening for Environmental Impact Assessment.

Aquaculture is listed as an Annex II Project under the EU EIA Directive 85/337/EEC, however, where this form of aquaculture depends on natural processes for production and supply of feed (i.e. extensive) an EIA Screening process is deemed not required (Ireland as a Member State Guidance). Therefore, in this instance it is the conclusion of the advisor that an EIA Screening is not required in this instance in line with Ministers Guidance.

8.0 Screening for Appropriate Assessment.

The proposed site T08/115A lies within both the Galway Bay complex SAC and the Inner Galway Bay SPA. The Marine Institute and Atkins on the behalf of the Department of Agriculture, Food and the Marine have in July 2019 conducted an Appropriate Assessment for the proposed aquaculture activities within both Galway Bay Complex SAC and Inner Galway Bay SPA, respectively.

It is considered that these reports provide significant information to allow licensing decisions to be made in relation to aquaculture activities within Galway Bay. The Technical Advisor agrees with the conclusions of the Appropriate Assessments, whereby no potential significant impact is expected to occur to the Annex I habitats or

Annex II species protected under the Galway Bay Complex SAC. However, the Appropriate Assessment of aquaculture activities within the Inner Galway Bay SPA concluded that potential exists for significant displacement and disturbance impacts to two species Light-bellied Brent Goose and Curlew if the proposed site T08/115A is licenced. This was due to the cumulative effects of the appealed site and another very large application site (T09/519A) situated on the northern side of the Aughinish causeway, which was also subsequently refused.

Updated cumulative displacement calculations have been undertaken for the Aughinish subsite and the SPA to enable calculation of the potential displacement impacts of currently licensed aquaculture sites and the appealed site.

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

With respect to the substantive issues raised by the appellant the below comments reflect the considered opinion of the advisor based on best available information:

Issue	Appellant Comments	Advisor Comments
***Licensing Precedent* - The presence of the Native Oyster**	*The appellant states that the presence of the native oyster within the bounds of the site should not be grounds for refusal as this indicates the site is suitable for shellfish culture*	The presence of both the native oyster and the non-native seaweed *Sargassum muticum* within the bounds of the proposed site do not constitute sufficient grounds for refusal of the licence application. The native oyster is ubiquitous across Galway Bay with densities similar to that recorded within the bounds of the proposed site. *Sargassum muticum*, is an invasive species which can be problematic for marine recreation and transit and can cause extensive shading to marine habitats, however, this species is now ubiquitous across the West Coast of Ireland, with no chance of stopping its spread. Therefore, it is considered that the refusal of the licence due to the presence of this species within the bounds of the proposed site does not constitute a significant ground for refusal and can be dealt with via the inclusion of a licence condition restricting the movement of stock and equipment in and out of the site and incorporating biosecurity measures in line with Invasive Species Ireland Guidelines.
Licensing Precedent* - The presence of invasive seaweed *Sargassum muticum	*The appellant states that the presence of this species should not be considered as a reason for refusal as this species is ubiquitous across Galway Bay including throughout existing licensed sites.*	
***Site Suitability* Presence of Boulders**	*The appellant states that the boulders present within the boundary of the site are not proposed for removal, as they do not present any issues in terms of access or husbandry*	Boulders of varying size are located across the proposed site, despite the appellant claiming that none of these boulders present an issue in terms of site access or husbandry it is likely that at least some movement or removal of these boulders will occur to facilitate placement of equipment and safe access for employees during husbandry activities.
Site Suitability Mobile Sediments	*The appellant states that the presence of mobile sediments is indicative of good currents and that the presence of these should not constitute a refusal of the licence.*	The presence of mobile sands is generally a sign of tidal currents which provide the culture species with foraging resources. Mobile sediments are common within the bounds of intertidal aquaculture sites as these indicate the presence of tidal movements thus providing sufficient food

Issue	Appellant Comments	Advisor Comments
		for the growth of the culture species. It is agreed that the presence of mobile sediments should not constitute a refusal of the licence.
Biased Appropriate Assessment	*The appellant contends that the initial Appropriate Assessment covered all of Galway Bay while their application received an individual assessment which was not consistent with the overall assessment.*	The Appropriate Assessment process is designed to assess all plans and projects which may have a potential impact on a Natura 2000 site (an SAC or SPA) both individually and cumulatively with other plans and/or projects. In this instance both a cumulative and individual assessment were conducted for the proposed site.
Licensing Timescales & Issues	*The appellant contends that the licence was dealt with in an untimely manner, with several conflicting reports which has resulted in the application being delayed and resulted in financial losses for the company.*	Licensing timescales is an ongoing issue with the DAFM due to the increased number of applications and the intensified licencing process. The reasons for the delay in the licensing determination cannot be definitively determined as there are various factors which influence this process. It is considered by the advisor that as aquaculture licensing is a process which takes time, and that time can be affected by numerous factors that any financial losses incurred by the company over the period is not attributable to the delay in licencing determinations.
Unsubstantiated Ownership Claim	*The appellant states that the Aquaculture and Foreshore Management Division of the DAFM accepted an unproven claim of private ownership to the oyster bed subsequent to the period of public consultation. No documents were provided to the appellant to substantiate this claim.*	It is stated within the ministerial documents that the Aquaculture and Foreshore Management Division of DAFM received a claim to private ownership of an oyster bed which overlaps the proposed site T08/115A. It is also stated that this claim was not investigated further as the licence application was being considered for refusal for separate reasons. It is considered that if the Board propose to licence this appealed site, then further information regarding this potential overlap should be investigated further.

10.0 Recommendation of Technical Advisor with Reasons and Considerations.

It is the considered opinion of the advisor that the licence be considered on the grounds that;

- The proposed site has the potential to alter the habitats within the bounds of the proposed site and access route due to the existing presence of boulders and the potential for removal / movement of these to enable equipment placement and access to the proposed site.
- Updated displacement calculations have shown that the potential cumulative displacement caused by the addition of the proposed site does not reach the 5% significance threshold for Light-bellied Brent Goose or Curlew at the subsite or SPA level.
- The proposed site is relatively large in proposed area, although the projected low output provided by the appellant within the initial license application indicates that the proposed site will be low scale and likely dispersed in nature.

- The grounds for refusal provided by the DAFM, the presence of Japanese wireweed *Sargassum muticum* and the native oyster *Ostrea edulis* within the bounds of the proposed site should not constitute grounds for refusal of an aquaculture license.

The Technical Advisor, based on the above information, recommends the Board reverse the Ministers decision to refuse the application, provided that clarification is provided to the ALAB on the extent of alteration of the existing habitats, from the movement of boulders onsite and that this potential alteration of habitats will not be significant.

11.0 Draft Determination Refusal /or Grant

It is recommended the Board consider the reversal of the Ministers decision to refuse the licence application based on details outlined in Section 10.

Technical Advisor: Eoin Cussen, EcoÉireann Ecological Consultants

Date: 01/09/2021

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Site Photographs

Photo 1: Upper and Middle Foreshore with Boulders

Photo 2: Middle Foreshore showing change from boulder to fine muddy sand

Photo 3: Typical Fuscus dominated areas

Photo 4: Typical Upper-middle Foreshore Species Composition

Photo 5: Typical Middle Foreshore Speceis Composition

Photo 6: View overlooking western portion of the proposed site facing south

Photo 7: View of eastern portion of the proposed site facing south

Photo 8: Typical Middle Foreshore Habitat of Eastern Portion of the Site

Photo 9: Proposed Site Access

Photo 10: Proposed Site Access

Photo 11: Proposed Access to Shore