



Technical Advisors Report

AP8 / 2018

**Bannow Bay Oyster Aquaculture and Foreshore Licence
Application Appeal**

Report prepared by MERC Consultants on behalf of

Aquaculture Licences Appeals Board

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Appeal Ref No. AP8/2018

Aquaculture Licences Appeals Board

Technical Advisor's Report

Description:

Assessment of the appeal against the Minister's decision to refuse aquaculture and foreshore licences for the cultivation of pacific oysters at site reference T3/96 within Bannow Bay, Co. Wexford.

Licence Application

Department Ref No: AP8/2018

Applicant: AG Oysters Ltd

Minister's Decision: Licence Applications Refused to Grant

Appeal

Type of Appeal:

Appeal against the decision of the Minister for Agriculture, Food and the Marine to refuse to grant an Aquaculture and Foreshore Licence to AG Oysters Ltd., for the cultivation of Pacific Oysters using bags and trestles at Bannow Bay, Co. Wexford on Site T03/96A

Appellant(s): AG Oysters Ltd

Observers: Fitzpatrick Oysters Ltd., Tomás Ffrench.

Technical Advisor MERC Consultants Ltd.

Date of site

Inspection 03/04/2019



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1.0 General Matters / Appeal Details

1.1 Appeal Details & Observer Comments / Submissions

Date Appeal Received:

Appeal	Site Ref	Appellant	Date of Appeal
Appeal 8/2018	T03/96	AG Oysters Ltd.	30th August, 2018

Location of Site Appealed: Bannow Bay, Co. Wexford.

1.2 Name of Appellant (s)

Appeal	Appellant
Appeal 8/2018	AG Oysters Ltd 225 New Lodge Road, Belfast BT15 2BY Northern Ireland

1.3 Name of Observer (s)

Adrien Geay, AG Oysters Ltd.

1.4 Grounds for Appeal

SUBSTANTIVE ISSUES

Appeal Ref	Application Site	Appellant
Appeal 8/2018	T03/96	AG Oysters Ltd.

1. There is no scientific evidence demonstrating that aquaculture may impact on bird populations

2. Most birds are located up stream of the application site so impacts will be minimal

Because of the location of the license the impact on bird populations is minimal compared to other areas.

3. Adequate management measures can be used to reduce the potential impacts of oyster farming on the environment.



The production cycle will be shortened, trestles removed between December and March, tractor use will be limited to two periods a year and trestle placement will ensure access to bird feeding areas further to discussion with bird specialists.

NON-SUBSTANTIVE ISSUES

1. Politics – monopolisation of the shelf fish industry in Ireland resulting in domination by big business, negatively affecting the sustainable development of small and medium coastal business. It would be economically sustainable to grant aquaculture licenses to new businesses in Bannow Bay.

1.5 Minister’s submission

Section 44(2) of the Fisheries (Amendment) Act 1997 states that
“The Board shall, as soon as practicable after receiving a notice of appeal, give a copy to each other party to the appeal.”

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

The *Notice of Appeal* was forwarded to the Department of Agriculture, Food and Marine on 2.9.2018. While the Department responded within the required timeframe and in so doing provided copies of relevant documentation relating to the application and internal process, no Ministerial submission in relation to the appeal was received by the Board within the specified timeframe. It is therefore determined that no Ministerial submission was made in response to the appeal which the Board is required to consider.

1.6 Applicant response

The applicants (as the appellants) may submit responses to appeal submissions under the provision set out in Section 44 (2) of the Fisheries (Amendment Act) 1997. Furthermore, Section 45 provides that any person who is not a party to the appeal may make submissions or observations in writing to the Board in relation to an appeal. The Board may also request a submission from any party to the appeal under Section 46 of the Act.

No appeal submissions were requested from the applicant by the Board and the applicant has not made any appeal submissions. No submissions were received from third parties in relation to the appeal. Accordingly, no applicant responses are recorded in response, there being no submissions.



2.0 Consideration of Non-Substantive Issues

The appellant raised one issue that has been considered as a non-substantive matter in the context of the appeal evaluation, reasons are as set out below.

- 1. Politics – monopolisation of the shelf fish industry in Ireland resulting in domination by big business negatively affecting the sustainable development of small and medium coastal business. It would be economically sustainable to grant aquaculture licenses to new businesses in Bannow Bay.*

The applicant cites published BIM figures, wherein 70% of Ireland’s oyster production emanated from just 15 producers in 2012. It is suggested that access to Ireland’s foreshore for the purposes of aquaculture should be granted equitably and that the granting of licences should not be “reserved to existing businesses only”. Amalgamation or concentration of licensed production areas among a smaller number of operators has been a feature of the oyster industry in recent years mainly as a consequence of existing producers selling their interests in licensed production sites to other producers. This has resulted in amalgamation of production units by some interests. The so-called ‘monopolisation’ of the sector is not occurring as a consequence of any legal requirement or policy in relation to allocation of licenses. The comment suggests that the Department in its licensing process is responsible for ensuring that production units remain small to medium in size. Whereas the Department’s role is actually to ensure that due process is applied to the granting of aquaculture/foreshore licences, in accordance with legal requirements.

While a further licensed oyster production area in Bannow Bay may be economically viable, this is not relevant to the consideration of the license application and is not considered a significant factor in the context of the appeal against the Minister’s decision to refuse a grant of licence.

Accordingly the issue of politics is considered to be non-substantive in relation to the appeal, and will not be considered further in the appeal evaluation.

3.0 Oral Hearing Assessment

The appellant requested an oral hearing in the Notice of Appeal. Having reviewed the Ministers File, additional correspondence from the appellant/applicant and Department of Agriculture, Food and the Marine and having carried out a site visit, it is considered that there is sufficient information and documentation available to the technical review in order to make a clear recommendation in relation to the appeal. An oral hearing is therefore not considered necessary in the circumstances.



4.0 Minister's file

No.	Date	Item
1.	28/04/16	Application to the Aquaculture and Foreshore Management Division (DAFM) for an aquaculture and foreshore license for a single specific site by AG Oysters Ltd.
2.	February 2017	Annex II Marine Institute Bird Studies. Bannow Bay Special Protection Area: Appropriate Assessment for Aquaculture. Report produced by Atkins Ecology for the Marine Institute
3.	February, 2017	Appropriate Assessment Summary Report of Aquaculture in the Bannow Bay SAC (Site code: 000697) and Bannow Bay SPA (Site code 004033). Marine Institute
4.	July, 2017	Annex II Bannow Bay SPA. Updated Assessment of Potential Displacement Impacts. Report produced by Atkins Ecology for the Marine Institute
5.	November 2017	Annex I Appropriate Assessment Report for Bannow Bay SAC (Site Code:000697)
6.	March 2018	Annex II Bannow Bay SPA. Updated Assessment of Potential Displacement Impacts. Report produced by Atkins Ecology for the Marine Institute
7.	March, 2018	Appropriate Assessment Summary Report of Aquaculture in the Bannow Bay SAC (Site code: 000697) and Bannow Bay SPA (Site code 004033). Marine Institute
8.	March 2018	Annex I Appropriate Assessment Report for Bannow Bay SAC (Site Code:000697)
9.	01/05/2018	Letter to Aquaculture and Foreshore Licensing Section regarding TO3/096A AG Oysters Ltd, from Marine Institute. .
10.	08/05/2018	Submission in relation to Aquaculture license applications T03/86A, B & C, T03/87A, TO3/88A, B & C, TO3/96A and TO/397A and TO3/98 from SWC Promotions
11.	10/05/2018	Letter to Aquaculture Licensing Section regarding TO3/096A AG Oysters Ltd, from Fitzpatrick, Tallaught, New Ross.
12.	14/05/2018	Email to Aquaculture Licensing Section regarding license applications T03/86A, B & C, T03/87A, TO3/88A, B & C, TO3/96A and TO/397A and TO3/98 from Sea Fisheries Protection Unit.
13.	24/05/2018	Submission to the Aquaculture Licensing Section regarding license applications T03/86A, B & C, T03/87A, TO3/88A, B & C, TO3/96A and TO/397A and TO3/98 from An Taisce
14.	24/05/2018	Submission to the Aquaculture Licensing Section regarding license applications T03/86A, B & C, T03/87A, TO3/88A, B & C, TO3/96A and TO/397A and TO3/98 from Wexford County Council



15.	25/05/2018	Email to Aquaculture Licensing Section regarding license applications T03/86A, B & C, T03/87A, T03/88A, B & C, TO3/96A and TO/397A and TO3/98 from BIM
16.	25/05/2018	Email to Aquaculture Licensing Section regarding license applications T03/86A, B & C, T03/87A, T03/88A, B & C, TO3/96A and TO/397A and TO3/98 from Development Applications Unit of Department of Culture, Heritage and the Gaeltacht.
17.	06/06/2018	Letter to Aquaculture Licensing Section regarding license applications TO3/096A AG Oysters Ltd, from Nigel Pierce of Parklands House, Newtown, Bannow.
18.	14/06/2018	Report on Aquaculture License Application from Marine Engineering Division of DAFM.
19.	19/06/2018	Letter from AG Oysters to DAFM re License Application TO3/96.
20.	Undated	Determination of Aquaculture/ Foreshore Licensing application –T03/96 by the Minister for Agriculture, Food and the Marine.
21.	Undated	00423-18: Recommendation to refuse to grant an Aquaculture/Foreshore License for Application T03/96 to the Minister from James O’Connell, Coastal Zone Management Division.
22.	30/07/2018	Notice of Ministerial decision to refuse to grant an Aquaculture and Foreshore License. Letter to AG Oysters from DAFM.
23.	21/08/18	Appeal to ALAB: AP8/2018, AG Oysters, 225 New Lodge Road Belfast. Northern Ireland

5.0 Context of the Area

5.1 Physical descriptions

Bannow Bay, situated on the south County Wexford coast, is a relatively large predominantly estuarine bay. It is approximately 7 km long from Big Burrow spit at the mouth of the bay to Wellington Bridge at the head. At its widest point, between Tintern Bridge and New Quay, it measures 2.7km (Figure 5.1).

The surrounding land use is predominantly mixed agriculture dominated by dairy and beef farming with some tillage. The area is generally quite isolated with Wellington Bridge at the head of the bay and Saltmills on the western shore being the only significant areas of settlement.

The majority of the bay is comprised of intertidal mudflats and sandflats dissected by a narrow subtidal channel formed from the influence of the Owenduff and Corock Rivers



which drain into the bay near its head. Navigation via this channel is possible with small vessels utilising local knowledge due to the dynamic nature of the sandbanks.

The margins of the bay are characterised by areas of sheltered intertidal reef, pockets of saltmarsh and tracks constructed to provide access to aquaculture installations. Areas of erosion are evident along sections of the eastern shore and building rubble has been used to create a defence along sections of this shore along the perimeter of the adjacent farmland.

The aquaculture and foreshore licence applications under appeal (AP8/2018) relate to a site that is located in the midsection of Bannow Bay, between Saint Kierans and New Quay (Figure 5.1).





Figure 5.1. Bannow Bay, Co. Wexford. Showing location of application aquaculture site under appeal AP8/2018



5.2 Resource Users

Aquaculture Activity

Oyster cultivation is the principal form of aquaculture within the bay and consists of intensive culture of Pacific oyster seed (*Magallana gigas* Syn *Crassostrea gigas*) using a bag and trestle method within the intertidal zone. The areas of oyster culture within the bay overlaps with areas of intertidal mudflats and sandflats in the mid-section of the bay.

The oyster seed used is currently sourced from oyster nurseries in France or the UK. There are three main pacific oyster production areas within Bannow Bay; the North and South of the bay, with one producer farming in the West of the bay (figure 5.2). In general, oyster farms are positioned between mean Low Water Spring and mean Low Water Neap, allowing on average between 2 and 5 hours exposure depending on location, tidal and weather conditions.). Farms are typically accessed during spring tides (at low tide) using vans or tractors along tracks created for this purpose and also over the adjacent intertidal area.

Preparatory work is conducted in the service areas in the intervening periods, including grading and packing, preparation of bags and trestles and general maintenance work which includes shaking and turning of bags, and hand removal of fouling and seaweed to ensure maintenance of water flow through the bags when submerged.

Angling Activity

Within Bannow Bay, shore angling takes place from either side of the channel mouth at Blackhall to the east and Newtown to the west on the first two hours of the flood tide and around high water for bass and flounder. Gilthead bream, smoothound and seatrout have also been taken in the area. As the tide rises the area at Newtown on the eastern side of the bay where the channel runs parallel to the shore can also be fished. Bait (lugworm) is sourced from the channel banks and crab from the reef areas around St Kieran's Quay.

Tourism

The south east coast of Ireland is a popular tourist destination. However, tourism is limited in the immediate area surrounding Bannow Bay which is rather isolated. With the exception of Wellington Bridge at the head of the bay and Saltmills on the west side of the bay, there are no significant towns, villages or holiday accommodation within the immediate vicinity of Bannow Bay and tourism is limited to occasional walkers and specialised interest groups (e.g. bird watchers).

Agricultural Activity

The area around Bannow Bay is devoted to mixed farming which is typical of the region. Grassland is the largest land use category with dairying and drystock production accounting for the majority of agricultural activity. There is also a significant number of farms with a sheep enterprise or horses. A smaller but substantial proportion of agricultural lands are



used for tillage crops, with spring barley being the predominant crop but with an increasing area being devoted to winter wheat and barley. There are smaller areas of other tillage crops such as, oats, maize, fodder beet, oil seed rape, beans and potatoes. Other land uses such as horticulture and forestry represent a very small proportion of the land use in the area. The soils in the area are mainly freely drained (Clonroche and Bannow Associations) but with some areas of poorly or imperfectly drained soils (Rathangan and Fethard Associations). Overall the soils are suited to a wide range of uses and this is reflected in the mix of farming enterprises (Source: Teagasc regional office for Wicklow/Carlow/Wexford area).

The EPA's diffuse model risk assessment, which investigates the relationship between catchment attributes (percentages of diffuse land cover including agriculture), water chemistry and ecological status, highlights many diffuse risk areas in the catchment. The predominantly dry soil.

Forestry

Commercial forestry in the catchment is low with the percentage forest cover (20.23km²) significantly lower than the national average. The nearest commercial forestry to shellfish areas is in the vicinity of Castleworkhouse, approximately 2 km west of the shellfish areas. The Tintern Abbey stream drains through this area of forestry but enters Bannow Bay south of the shellfish area. Due to the low level of forest cover in the catchment and its distance and connectivity to the shellfish area, forestry is unlikely to be affecting shellfish water quality in this shellfish area.

Inshore Fishing activity

Figure 5.3 shows the location of shellfish dredging areas for vessels <15 metres in length using hydraulic and towed dredging gear in Bannow Bay. There are no significant static gear fisheries for shellfish or finfish species in Bannow Bay, licensed or otherwise. Periwinkles are harvested commercially by hand in intertidal parts of the bay that have suitable substrate.





Figure 5.2. Existing aquaculture licence areas within Bannow Bay.





Figure 5.3. Location of designated shellfish dredging areas within Bannow Bay.



Leisure Users of the water body & surrounding area

The majority of coastal and marine leisure activities are concentrated around Bannow beach and Big Burrow dunes to the south of the site. In this area beach walking and horse riding take place.

Within Bannow Bay, north of Big Burrow spit, the following leisure activities occur:

- **Walking:** A way marked trail is located in the vicinity of Saltmills on the west side of Bannow Bay. This walk runs along the estuary to the old estate village of Saltmills and minor roads follow the edge of Bannow Bay. Additional *Ad hoc* walkers also utilise the margins of the estuary.
- **Bird watching:** Bannow Bay supports an excellent diversity of wintering waterfowl and is one of the most important sites in the south-east, as such it is a popular location for bird watching by enthusiasts.

Other Users

Hand-gathering of Periwinkles (*Littorina littorea*) occurs within the intertidal area on the west side of Bannow Bay in the area between St Kiernan's Quay to Saltmills to Big Burrow. Bait-digging also occurs in this area and also on the east side of the bay between Bannow Island and New Quay (NPWS, 2012).

5.3 Environmental Data

Water Quality

Bannow Bay is surrounded by the Ballyteigue-Bannow catchment. This catchment includes the area drained by all streams entering tidal water between Greenore Point and Railway Bridge, Great Island, Co. Wexford, draining a total area of 654km². There are no large urban centres in the catchment.

The northern section of Bannow Bay, Between Wellington Bridge and Barrystown, known as the Corock Estuary, is defined as a transitional water body. The remainder of the site, to the mouth of the bay, is classified as a coastal water body.

Water quality monitoring and assessments carried out on Irish coastal waters and transitional water bodies for the Reporting period 2010-2012 by the EPA have classified the water quality of the Corock Estuary as “intermediate” and the coastal water body of Bannow Bay as “potentially eutrophic” (Source [https://gis.epa.ie/EPAMaps/Water quality](https://gis.epa.ie/EPAMaps/Water%20quality)).

Water Framework Directive

The water quality status of transitional and coastal waterbodies assessed under the EU Water Framework Directive (2000/60/EC) is provided under section 5.4



Under the Water Framework Directive an approved risk is also assigned to each feature by catchment scientists. The approved risk for the Corock Estuary is currently assigned as “under review”. The approved risk for Bannow Bay coastal water body is also under review. (Source [https://gis.epa.ie/EPAMaps/Water Framework Directive](https://gis.epa.ie/EPAMaps/WaterFrameworkDirective)).

Waste Water

A total of nineteen (19) urban waste water treatment plants are located within the Ballyteigue-Bannow catchment. These are waste water treatment plants in agglomerations (towns/cities) with a population equivalent of over 500 during 2006, 2007 and 2008, and were reported on and assessed for compliance under The Urban Waste Water Treatment Regulations, 2001 (S.I. No. 254 of 2001) and 2004 (S.I. 440 of 2004).

Classified Bivalve Mollusc Production Areas

Bannow Bay (figure 5.4) is a classified bivalve mollusc production area (Class B) for the production of oysters and mussels.

The Classified Bivalve Mollusc Production Areas in Ireland designates the production areas from which live bivalve molluscs may be taken. Gatherers may only harvest live bivalve molluscs from these production areas which have fixed locations and boundaries and which are classified as being of class A, B or C in accordance with Regulation (EC) No 854/2004. Annex II of Regulation (EC) 854/2004 sets out the requirements for the classification of production and relaying areas, the monitoring of classified relaying and production areas and the recording and exchange of information.

Shellfish Flesh Monitoring Programme

Shellfish flesh classifications (carried out under the European Communities (Live Bivalve Molluscs) (Health Conditions for Production and Placing on the Market) Regulations, 1996 (S.I. No. 147 of 1996) indicate faecal contamination in shellfish flesh. Sampling is carried out by the Sea Fisheries Protection Authority (SFPA) on at least a monthly basis.

Bird data

Bird data for Bannow Bay is available as follows:

Bird Usage Counts (low tide) were completed by NPWS in 1998 and 1999 with five winter counts between January 1998 and January 1999.

Irish Wetland Bird Survey (I-WeBs) counts (high tide) (Source: <https://birdwatchireland.ie>) are available from 1994/1995 to 2015/2016. Atkins provides a summary of coverage between the years 1994/95 and 2013/14 (Atkins, 2017). During this period counts were completed during 14 winters with between 1 and 6 counts each winter. There is no counts data for five winters during this period and the data quality is poor for one winter.



NPWS completed four counts low tide and one high tide count as part of the Waterbird Survey Programme in 2009/10. Counts were completed between October and January. This data is used to inform the conservation objectives for Bannow Bay (NPWS, 2012) and is available in Cummins and Crowe (2010).

In 2011 four winter low tide counts were completed as part of Marine Institute Study (the “trestle study”) to investigate the effects of intertidal oyster culture on the spatial distribution of waterbirds (Gittings and O’Donoghue, 2012 and 2016).

Bird Survey Ireland counts (BSI, 2015, 2016, 2018) were completed during the winter 2014/15, 2015/16 and 2017/2018. During each winter four low tide and one high tide count was completed. These surveys were produced by Inis Environmental Ltd on behalf of the Marine Institute and the oyster producers in Bannow Bay.





Figure 5.4. Location of SUMS area, shellfish waters and Bivalve mollusc production areas.



5.4 Statutory Status

Nature Conservation Designations:

Natura 2000 sites Special Areas of Conservation (SAC's) established under the EU Habitats Directive (92/43/EEC) and Special Protection Areas (SPA's) established under the EU Birds Directive (79/409/EEC).

The proposed aquaculture sites are located within Bannow Bay SAC (Site code: 000697) and Bannow Bay SPA (Site code: 004030) See figure 5.4. The site is designated as an SAC owing to the excellent range of intertidal and coastal habitats present. Bannow Bay SPA supports an excellent diversity of wintering waterfowl and is one of the most important sites in the south-east. Of particular note are the internationally important populations of Light-bellied Brent Goose and Black-tailed Godwit. The site also supports nationally important numbers of a further eleven species. The intertidal mudflats and sandflats support a rich macroinvertebrate fauna which provide a feeding resource for wintering water birds while the adjacent saltmarsh and associated shoreline habitats provide suitable roosts.

A number of additional Natura 2000 sites lie within a 15km radius of the proposed aquaculture sites (See table 5.1 for details). The features of interest for all sites within a 15km radius of the proposed aquaculture site are given in table 5.2. SPA's beyond the 15km radius of Bannow Bay may also support bird populations which use Bannow Bay. These other SPAs were assessed by Atkins (2017) and have also been considered in this assessment.

Ramsar Sites: designated under the Convention on Wetlands of International Importance especially as Waterfowl Habitat Ramsar, Iran 2.2.1971.

Bannow Bay Ramsar Site ID 860 was designated on the 11.6.1996. The site which comprises a total of 958 ha is described as “a sea bay with extensive mud and sand flats, saltmarsh, and sand dunes. The site supports an important range of wintering waterbird species, including *Anas acuta*, *Calidris canutus*, *Pluvialis squatarola*. It is a habitat for internationally important numbers (938) of Brent geese *Branta bernicla hrota*”.

Wildfowl Sanctuaries

Part of Bannow Bay is designated as a Wildfowl Sanctuary (Wildfowl Sanctuary Code: WFS-65). Wildfowl sanctuaries are areas that have been excluded from the ‘Open Season Order’ so that game birds can rest and feed undisturbed. Shooting of game birds is not allowed in these sanctuaries.





Figure 5.4. Location of Bannow Bay SAC and Bannow Bay SPA.



Table 5.1 Additional Natura 2000 sites within a 15km radius of the proposed aquaculture sites.

Site Code	Site Name	Distance from Proposed aquaculture sites (km)
000764	Hook Head SAC	2.9
002162	River Barrow And River Nore SAC	7.5
000696	Ballyteige Burrow SAC	4.5
000707	Saltee Islands SAC	9.5
002137	Lower River Suir SAC	14.6
004020	Ballyteige Burrow SPA	5.0
004118	Keeragh Islands SPA	4.3

Table 5.2 Features of interest for all sites within a 15 km radius of the proposed aquaculture sites. Data down as provided by NPWS protected sites data 14/4/2019.

Bannow Bay SAC (Site code: 000697)
<ul style="list-style-type: none"> • Estuaries [1130] • Mudflats and sandflats not covered by seawater at low tide [1140] • Annual vegetation of drift lines [1210] • Perennial vegetation of stony banks [1220] • Salicornia and other annuals colonising mud and sand [1310] • Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] • Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] • Mediterranean and thermo-Atlantic halophilous scrubs (<i>Sarcocornetea fruticosis</i>) [1420] • Embryonic shifting dunes [2110] • Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120] • Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]
Hook Head SAC (Site code: 000764)
<ul style="list-style-type: none"> • Large shallow inlets and bays [1160] • Reefs [1170] • Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]
River Barrow And River Nore SAC (Site code: 002162)



<ul style="list-style-type: none"> • Estuaries [1130] • Mudflats and sandflats not covered by seawater at low tide [1140] • Reefs [1170] • Salicornia and other annuals colonising mud and sand [1310] • Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] • Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] • Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [3260] • European dry heaths [4030] • Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430] • Petrifying springs with tufa formation (<i>Cratoneurion</i>) [7220] • Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0] • Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0] • <i>Vertigo moulinsiana</i> (Desmoulin's Whorl Snail) [1016] • <i>Margaritifera margaritifera</i> (Freshwater Pearl Mussel) [1029] • <i>Austropotamobius pallipes</i> (White-clawed Crayfish) [1092] • <i>Petromyzon marinus</i> (Sea Lamprey) [1095] • <i>Lampetra planeri</i> (Brook Lamprey) [1096] • <i>Lampetra fluviatilis</i> (River Lamprey) [1099] • <i>Alosa fallax fallax</i> (Twait Shad) [1103] • <i>Salmo salar</i> (Salmon) [1106] • <i>Lutra lutra</i> (Otter) [1355]
Ballyteige Burrow SAC (Site code: 000696)
<ul style="list-style-type: none"> • Estuaries [1130] • Mudflats and sandflats not covered by seawater at low tide [1140] • Coastal lagoons [1150] • Annual vegetation of drift lines [1210] • Perennial vegetation of stony banks [1220] • Salicornia and other annuals colonising mud and sand [1310] • Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] • Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] • Mediterranean and thermo-Atlantic halophilous scrubs (<i>Sarcocornetea fruticosi</i>) [1420] • Embryonic shifting dunes [2110] • Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120] • Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] • Atlantic decalcified fixed dunes (<i>Calluno-Ullicetea</i>) [2150]
Saltee Islands SAC (Site code: 000707)



<ul style="list-style-type: none"> • Mudflats and sandflats not covered by seawater at low tide [1140] • Large shallow inlets and bays [1160] • Reefs [1170] • Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] • Submerged or partially submerged sea caves [8330] • <i>Halichoerus grypus</i> (Grey Seal) [1364]
Lower River Suir SAC (Site code: 002137)
<ul style="list-style-type: none"> • Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] • Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] • Water courses of plain to montane levels with the <i>Ranuncion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation [3260] • Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430] • Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0] • Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0] • <i>Taxus baccata</i> woods of the British Isles [91J0] • <i>Margaritifera margaritifera</i> (Freshwater Pearl Mussel) [1029] • <i>Austropotamobius pallipes</i> (White-clawed Crayfish) [1092] • <i>Petromyzon marinus</i> (Sea Lamprey) [1095] • <i>Lampetra planeri</i> (Brook Lamprey) [1096] • <i>Lampetra fluviatilis</i> (River Lamprey) [1099] • <i>Alosa fallax fallax</i> (Twaites Shad) [1103] • <i>Salmo salar</i> (Salmon) [1106] • <i>Lutra lutra</i> (Otter)
Bannow Bay SPA (Site code: 004033)
<ul style="list-style-type: none"> • Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] • Shelduck (<i>Tadorna tadorna</i>) [A048] • Pintail (<i>Anas acuta</i>) [A054] • Oystercatcher (<i>Haematopus ostralegus</i>) [A130] • Golden Plover (<i>Pluvialis apricaria</i>) [A140] • Grey Plover (<i>Pluvialis squatarola</i>) [A141] • Lapwing (<i>Vanellus vanellus</i>) [A142] • Knot (<i>Calidris canutus</i>) [A143] • Dunlin (<i>Calidris alpina</i>) [A149] • Black-tailed Godwit (<i>Limosa limosa</i>) [A156] • Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] • Curlew (<i>Numenius arquata</i>) [A160] • Redshank (<i>Tringa totanus</i>) [A162] • Wetland and Waterbirds [A999]
Ballyteige Burrow SPA (Site code: 004020)



<ul style="list-style-type: none"> • Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] • Shelduck (<i>Tadorna tadorna</i>) [A048] • Golden Plover (<i>Pluvialis apricaria</i>) [A140] • Grey Plover (<i>Pluvialis squatarola</i>) [A141] • Lapwing (<i>Vanellus vanellus</i>) [A142] • Black-tailed Godwit (<i>Limosa limosa</i>) [A156] • Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] • Wetland and Waterbirds [A999]
Keeragh Islands SPA (Site code: 004118)
<ul style="list-style-type: none"> • Cormorant (<i>Phalacrocorax carbo</i>) [A017]

Protected Species

Birds

The site is of importance for wintering/non breeding birds. The bird species which are listed as features of interest for Bannow Bay SPA are given in table 5.2.

Plants

Halophilous scrub occurs in four of the larger saltmarsh areas with Bannow Bay SAC. It is characterised by the presence of the legally protected (Flora (Protection) Order, 1999) and Red Data Book-listed plant Perennial Glasswort (*Arthrocnemum perenne*), which occurs in only a few sites in the country.

Mammals

Otter (*Lutra lutra*) and Common Seal (*Phoca vitulina*) occur within Bannow Bay SAC but the site is not designated for these species.

Statutory Plans

Wexford County Development Plan 2013-2019

The Wexford County Development Plan 2013-2019 sets out Wexford County Council's intentions for the future development of land, including measures for the improvement of the natural and physical environment and the provision of infrastructure. The Plan builds on the strategies, policies and objectives of the previous County Development Plan 2007-2013.

The following objectives stated in the Wexford County Development Plan 2013-2019 are considered relevant to the appeal AP8 2018.

- Objective CZM36: To support the contribution of fishing and aquaculture to the rural economy by encouraging and facilitating the use and development of existing port/pier/ harbour facilities for commercial fishing, whilst taking account of the need to conserve and enhance the natural and cultural heritage of the coast and



- subject to compliance with normal planning and environmental criteria and the development management standards contained in Chapter 18.
- Objective CZM37: To work with local communities, relevant stakeholders and the Department of Agriculture, Fisheries and the Marine to ensure the proper and successful implementation of the Shellfish Waters Directive along the County Wexford coastline.
 - Objective CZM39: To support and protect identified shellfish areas in the county.
 - Objective ED21: To support the development of the fisheries and aquaculture industry and support its diversification at appropriate locations, having regard to the requirements of the EU Water Framework Directive, the relevant River Basin Management Plans and the Habitats Directive.
 - Objective NH01: To conserve and protect the integrity of sites designated for their habitat/wildlife or geological/geomorphological importance and prohibit development which would damage or threaten the integrity of these sites, including SACs, cSACs, SPAs, NHAs, pNHAs, Nature Reserves, and Refuges for Fauna.
 - Objective NH03: To ensure that any plan or project and any associated works, individually or in combination with other plans or projects, are subject to Appropriate Assessment Screening to ensure there are no likely significant effects on the integrity (defined by the structure and function) of any Natura 2000 site(s) and that the requirements of Article 6(3) and 6(4) of the EU Habitats Directive are fully satisfied. Where the plan/project is likely to have a significant effect on a Natura 2000 site it shall be subject to Appropriate Assessment. The plan/project will proceed only after it has been ascertained that it will not adversely affect the integrity of the site or where in the absence of alternative solutions, the plan/project is deemed imperative for reasons of overriding public interest, all in accordance with the provisions of article 6(3) and 6(4) of the EU Habitats Directive.
 - Objective NH04: To ensure the protection and conservation of areas, sites and species and ecological networks/corridors of local biodiversity value outside the designated sites throughout the county.

Water Quality Status

Water Framework Directive

Coastal and Transitional Waterbody Status results are recorded in accordance with European Communities (Water Policy) Regulations 2003 (SI No. 722/2003). The regulation objectives include the attainment of good status in waterbodies that are of lesser status at present and retaining good status or better where such status exists at present by 22nd December 2015.

The water quality status of both the Corock Estuary transitional waterbody (IE_SE_090_0100) and Bannow Bay coastal waterbody (IE_SE_090_0000) is unassigned for the 2010-2015 reporting period.



5.5 Man-made heritage

The Department of Culture, Heritage and the Gaeltacht submitted concerns regarding the likely presence of unknown or undocumented underwater cultural heritage during the application processes for which appeals are now being considered. A range of features are considered likely to be present including “*fishtraps, landing areas, shipwrecks and associated material, artefacts etc*”. In the submission, the Department stipulates that an *Underwater Archaeological Impact Assessment* must be carried out by qualified, competent and licensed archaeologist prior to the placement of any additional trestles on the foreshore. It is unclear to the reviewer whether or not such an assessment including relevant surveys have been carried out and what, if anything, was found.

According to the Archaeological Survey of Ireland, there are numerous sites of archaeological interest located in and around Bannow Bay. Sites and features of importance include bullaun stones, graveslabs, bridges, fortified houses, churches, graveyards, castles, gatehouses, bastioned forts, ringforts, standing stones, mines and a sarcophagus. Online query of the Historic Environment Viewer of the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs allows access to the Site and Monuments Record database. Data for townlands in close proximity to the licence application site is presented in Table 5.3 below. None of the listed features are considered to be close to any licence applications and are not considered to be vulnerable to effects of the existing or proposed additional aquaculture activity.

In addition, details of features surrounding Bannow Bay recorded under the National Inventory of Architectural Heritage are available via the Historic Environment Viewer of the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. The closest features to the proposed new license site are a series of limekilns located adjacent to the foreshore at Taullaght. These are not considered to be at direct risk of aquaculture activity, however being situated immediately adjacent to the foreshore, they are likely to be at risk from coastal erosion and are vulnerable to effects of any activities that may affect the rate at which erosion occurs in the immediate vicinity.

SMR No.	Feature	Townland	Easting	Northin g
WX040-047----	Church	BALLYLANNAN	684596	613804
WX040-076----	Redundant record	BALLYLANNAN	684769	613643
WX045-009----	Ringfort - unclassified	SAINTLEONARDS	680756	612136
WX045-010001-	Church	SAINTLEONARDS	681456	612512
WX045-010002-	Graveyard	SAINTLEONARDS	681456	612512
WX045-011----	Well	BALLYHACKBEG	681649	612249
WX045-012----	Historic town	CLONMINES	684310	612930
WX045-012001-	Castle - tower house	CLONMINES	684360	613028
WX045-012002-	Bawn	CLONMINES	684405	612925



WX045-012003-	Religious house - Augustinian	CLONMINES	684402	612891
WX045-012004-	House - 16th/17th century	CLONMINES	684340	612920
WX045-012005-	Castle - tower house	CLONMINES	684317	612819
WX045-012006-	Church	CLONMINES	684228	612885
WX045-012007-	Church	CLONMINES	684205	612875
WX045-012008-	Ritual site - holy well	CLONMINES	684399	612927
WX045-012009-	Town defences	CLONMINES	684167	612965
WX045-012010-	Graveyard	CLONMINES	684200	612860
WX045-012011-	Gatehouse	CLONMINES	684385	612888
WX045-013001-	Church	BALLYLANNAN	684618	613494
WX045-013002-	Graveyard	BALLYLANNAN	684608	613495
WX045-013003-	Bullaun stone	BALLYLANNAN	684613	613507
WX045-014----	Redundant record	MAUDLINTOWN	685047	613113
WX045-015001-	Bullaun stone (present location)	MAUDLINTOWN	685574	613186
WX045-015002-	Bullaun stone	MAUDLINTOWN	685517	613203
WX045-020001-	Castle - tower house	BARRYSTOWN	685341	611914
WX045-020002-	House - 18th/19th century	BARRYSTOWN	685365	611875
WX045-020003-	Structure	BARRYSTOWN	685390	611938
WX045-022----	Redundant record	KILTRA	684602	610903
WX045-027001-	Religious house - Cistercians	TINTERN	679375	610107
WX045-027002-	House - 16th century	TINTERN	679385	610107
WX045-027003-	Gatehouse	TINTERN	679340	610073
WX045-027004-	Graveslab	TINTERN	679375	610107
WX045-027005-	Graveslab	TINTERN	679375	610107
WX045-027006-	Graveslab	TINTERN	679375	610107
WX045-027007-	Bridge	TINTERN	679323	610058
WX045-027008-	Field system	TINTERN	679360	610310
WX045-028001-	Ritual site - holy well	TINTERN	679527	609908
WX045-028002-	Bridge	TINTERN	679485	609920
WX045-029001-	Church	TINTERN	679630	609925
WX045-029002-	Graveyard	TINTERN	679625	609915
WX045-029003-	Wall monument	TINTERN	679630	609925
WX045-029004-	Graveslab	TINTERN	679630	609925
WX045-029005-	Graveslab	TINTERN	679630	609925
WX045-029006-	Graveslab	TINTERN	679630	609925
WX045-029007-	Graveslab	TINTERN	679630	609925
WX045-029008-	Architectural feature	TINTERN	679577	609935
WX045-030001-	Church	SAINTKIERANS	680842	609461



WX045-030002-	Bullaun stone	SAINTKIERANS	680842	609461
WX045-030003-	Road - road/trackway	SAINTKIERANS	680835	609440
WX045-032----	Enclosure	NEWTOWN	683751	610163
WX045-033----	Ringfort - rath	NEWTOWN	683865	609820
WX045-034----	Castle - unclassified	NEWTOWN	684173	609433
WX045-035----	Burial ground	GRANGE	685045	609605
WX045-042----	Castle - motte	BANNOW ISLAND	681772	607461
WX045-043----	Church	BANNOW ISLAND	681890	607375
WX045-044----	Midden	BANNOW ISLAND	682237	607598
WX045-045----	Historic town	BANNOW	682410	607355
WX045-045---*	Historic town	BANNOW	682410	607355
WX045-045001-	Church	BANNOW	682413	607231
WX045-045002-	Castle - unclassified	BANNOW	682485	607186
WX045-045003-	Graveyard	BANNOW	682415	607220
WX045-045004-	Bullaun stone	BANNOW	682413	607231
WX045-045005-	Graveslab	BANNOW	682413	607232
WX045-045006-	Graveslab	BANNOW	682413	607231
WX045-045007-	Graveslab	BANNOW	682425	607238
WX045-045008-	Sarcophagus	BANNOW	682413	607231
WX045-045009-	Font	BANNOW	682413	607232
WX045-046----	Ritual site - holy well	BANNOW	682608	607185
WX045-047----	Church	BRANDANE	682815	607606
WX045-055----	Mine	BARRYSTOWN	685042	612293
WX045-064----	Tide mill - unclassified	BRANDANE	682772	607712
WX045-070001-	Church	TAULAGHT	681942	611682
WX045-070002-	Burial	TAULAGHT	681942	611682
WX045-073----	Windmill	CLONMINES	683708	611781
WX045-075----	Burial ground	DUNGULPH	677913	607500
WX045-076----	Ringfort - rath	GORTEENS	678843	608714
WX045-079----	Ringfort - rath	CLONMINES	682670	612080
WX045-083001-	Ringfort - unclassified	HAGGARD	684509	608254
WX045-083002-	Enclosure	HAGGARD	684490	608218
WX045-085----	Charcoal-making site	MAUDLINTOWN	685025	613213
WX045-089----	Road - road/trackway	CLONMINES	684242	612690
WX045-090----	Field boundary	CLONMINES	683975	612503
WX045-091----	Road - road/trackway	TINTERN	679712	610480
WX045-096----	Enclosure - large enclosure	SALTMILLS	679244	609543



6.0 Section 61 Assessment

Section 61 of the Fisheries (Amendment) Act 1997 states that:

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

- (a) the suitability of the place or waters at or in which the aquaculture is or is proposed to be carried on for the activity in question,*
- (b) other beneficial uses, existing or potential, of the place or waters concerned,*
- (c) the particular statutory status, if any, (including the provisions of any development plan, within the meaning of the Local Government (Planning and Development) Act, 1963 as amended) of the place or waters,*
- (d) the likely effects of the proposed aquaculture, revocation or amendment on the economy of the area in which the aquaculture is or is proposed to be carried on,*
- (e) the likely ecological effects of the aquaculture or proposed aquaculture on wild fisheries, natural habitats and flora and fauna, and*
- (f) the effect or likely effect on the environment generally in the vicinity of the place or water on or in which that aquaculture is or is proposed to be carried on—*
 - (i) on the foreshore, or*
 - (ii) at any other place, if there is or would be no discharge of trade or sewage effluent within the meaning of, and requiring a licence under section 4 of the Local Government (Water Pollution) Act, 1977, and*
- (g) the effect or likely effect on the man-made environment of heritage value in the vicinity of the place or waters.”*

6.1 Site Suitability



The site for which an aquaculture site licence application is being considered under the present appeal is **suitable** for the intertidal trestle culture of oysters for the following reasons:

- The site is within Bannow Bay. Bannow Bay has a well-established and successful Pacific oyster (*Magallana gigas* Syn *Crassostrea gigas*) trestle culture industry.
- It has been demonstrated that oyster culture is an economically viable activity in Bannow Bay considering factors of site access, tidal regimes, shelter, food availability and growth rates, biotoxin levels, water quality.

The site for which an aquaculture site licence application is being considered under the present appeal is **not suitable** for the intertidal trestle culture of oysters for the following reasons:

- The application site is located within Bannow Bay Special Protection Area and Bannow Bay Special Area of Conservation. Bannow Bay SPA is of international importance for non-breeding/wintering birds and is designated for a range of bird species. Oyster cultivation has the potential to impact on wintering birds owing to disturbance and habitat change causing displacement. Where oyster cultivation occurs within intertidal habitats and at sites used by wintering birds there is a likelihood of significant adverse effects on bird species.

A 2017 Appropriate Assessment of oyster trestle aquaculture in Bannow Bay which was updated in 2018, predicted displacement effects of between 13 and 16% were for Grey Plover, Black-tailed Godwit, Bar-tailed Godwit, Knot and Dunlin with the granting of all licenses. The level of effect was reduced to between 6 and 7% and with the granted of existing and trial licenses only. Displacement effects were predicted to be <3% with the granting of existing licenses only. Significant displacement effects were therefore predicted for Grey Plover, Black-tailed Godwit, Bar-tailed Godwit, Knot and Dunlin with the granting of new aquaculture licenses. Accordingly, on the basis of the Appropriate Assessment and where there are no clear mitigation measures available to prevent the risk of the deterioration of the conservation status of specific shorebirds, the site is not considered suitable for licensing of further production units.

- The application site has a significant sub-tidal component and straddles the navigable channel.
- Some trestles will remain covered at low water, making regular husbandry difficult and presenting additional environmental and/or safety risks.
- The development will infringe on the approaches to New Quay and will create access difficulties for inshore and rescue vessels.



- The proposed site is located outside of the SUMS area
- The gradient of the foreshore and the hydrodynamic regime of sections of the proposed site make it unsuitable for this type of aquaculture.
- Development of the site will require a new access point onto the foreshore and the impacts of this are undetermined.
- The appeal relates to an application for aquaculture and foreshore licences to produce 454T of oysters annually. There may be potential for issues to arise relating to the carrying capacity of the site in terms of oyster production volumes were this site to be licensed individually or in conjunction with other applicant sites. The total *additional proposed production* volume from sites that are currently under appeal in Bannow Bay amounts to 860T. Current production volume (2018) of gigas oysters for Co Wexford is estimated at 581t (BIM, 2018). Licensing of all sites currently under appeal (including sites under concurrent appeals) would likely represent at a minimum a proposed doubling of current production levels.

6.2 Other uses

A range of other beneficial users and stakeholders have interests in Bannow Bay. As a scenic and amenity area, the site is important to both local people and visitors. The site is popular with outdoor enthusiasts including walkers, nature watchers (incl. bird watchers), canoeists and sea kayakers, recreational anglers (fishing and bait digging) and leisure boaters. Some of these activities form the basis of local enterprises, e.g. guided angling for seabass. The site is of limited interest to bathers due to the strong tidal currents experienced at the site, although bathers utilise beaches immediately outside of the bay itself and swimming is possible in a number of locations at periods of slack water around high tide. Some sailing and windsurfing/kitesurfing activity occasionally takes place at periods of high tide, although mostly outside of Bannow Bay at Cullenstown Strand.

There are limited commercial users of the bay outside of the aquaculture sector and no other activity is known to occur at a level that is significant in a local or regional context. While Bannow Bay was important locally for shipping and was part of regional commerce route, Bannow Bay is no longer used for movement of goods.

Commercial fisheries of the south east are detailed in general terms by the South East Regional Inshore Fisheries Forums (RIFF). Reference to Bannow Bay is only made in the context of oyster cultivation and no capture fisheries are eluded to. However, a range of capture fisheries using both mobile and static fishing gears are known to take place outside of Bannow Bay, including lobster and crab potting, static netting of demersal species as well as dredging of a range of bivalve molluscs including clams, razor clams, scallops and mussels.



Local agriculture interests may from time to time utilise the foreshore for access to lands that are immediately adjacent to the foreshore or that are otherwise difficult to access.

In terms of navigation, the selection of a site that straddles the main channel will cause issues for navigation for local inshore vessels including rescue craft and leisure boating. The Commissioners of Irish Lights have pointed out that the development will infringe on the approaches to New Quay.

Licensing of the application site has potential to impact negatively on other users of Bannow Bay, including general navigation, birdwatching and angling activity.

6.3 Statutory Status

The proposed aquaculture site is located within **Bannow Bay SAC** (Site code: 000697) and **Bannow Bay SPA** (Site code: 004030). Special Areas of Conservation (SAC's) are established under the EU Habitats Directive (92/43/EEC). Special Protection Areas (SPA's) established under the EU Birds Directive (79/409/EEC). Both the Habitats Directive and the Birds Directive are transposed into Irish law by the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011).

Bannow Bay is also a **Ramsar site** (Site ID 860; designated on the 11.11.1996). Bannow Bay Ramsar site has an area of 958 hectares. Ramsar sites have no legal protection as such under Irish legislation, their actual protection derives from other designations of the site such as SPAs or Nature Reserves.

Bannow Bay is a **Wildfowl Sanctuary** (Wildlife Sanctuary Code: WFS-65). Wildfowl Sanctuaries are designated on state or private land by statutory instrument under Section 24 of the 1976 Wildlife Act and the 2000 Wildlife (Amendment) Act. Wildfowl sanctuaries are used to protect certain ducks, geese and wader species from hunting. The objective of the designation is to control hunting of wildfowl, especially in wetland areas. Species that are protected from hunting within a wildfowl sanctuary include:

Brent Geese (*Branta bernicla brota*), Blacktailed Godwit (*Limosa limosa*), Teal (*Anas Crecca*), Dunlin (*Calidris alpina*), Shelduck (*Tadorna tadorna*) Knot (*Calidris canutus*), Wigeon (*Anas penelope*) Grey Plover (*Pluvialis squatarola*), Lapwing (*Vanellus vanellus*) Golden Plover (*Pluvialis apricaria*), Curlew (*Numenius arquata*) Ringed Plover (*Charadius biaticula*), Redshank (*tringa totanus*) Oystercatcher (*Haematopus ostralegus*)

Bannow Bay is a **Classified Bivalve Mollusc Production Area** under the EU Shellfish Waters Directive (2006/113/EC). The classification is B. Under classification B, live bivalve shellfish can be supplied for human consumption after one of three processes. The options are:



- purification in an approved establishment
- relaying for at least one month in a classified Class A relaying area
- an EC approved heat treatment process

The Directive aims to protect and improve shellfish waters in order to support shellfish life and growth and is designed to protect the aquatic habitat of bivalve and gastropod molluscs, which includes mussels, scallops, clams, oysters and cockles. The Directive requires Member States to designate waters that need protection in order to support shellfish life and growth, and then establish pollution reduction programmes for the designated waters. The European Communities (Quality of Shellfish Waters) Regulations 2006 (as amended) (S.I. No 268 of 2006) gives effect to the Directive in Ireland.

Under the Wexford County Development Plan 2013-2019, Bannow Bay is listed as a Landscape of Greater Sensitivity.

Licensing of the aquaculture application site has potential to impact negatively on features that underpin the Wildfowl Sanctuary, SPA and SAC designations for Bannow Bay.

6.4 Economic effects

The granting of the aquaculture licence applications has potential to benefit the local community. The application has not detailed projected employment numbers, however based on proposed production levels it is likely that economic turnover would exceed €1m, requiring in the region of 6-8 full-time equivalent positions, were the site to be operated at full proposed production.

Licensing of the application site would have a positive impact on the economy of the local area.

6.5 Ecological Effects

Licensing of the additional application site within Bannow Bay will have a number of ecological impacts, some of which are likely to be significant.

Fish

Bannow Bay is likely to act as a nursery for early life stages for a range of marine fishes. Further licensing of aquaculture sites may provide enhanced refuge for fish species that are attracted to the habitat that trestles create and may in consequence improve foraging opportunities for predatory species such as seabass. Seabass (and associated recreational fisheries) may be displaced by a farm of the proposed scale.



Mammals

Oyster trestles may provide refuge for fish species during periods of immersion and may provide foraging opportunities for both otter and seals. Otters are known to use Bannow Bay and the nearby Saltee Islands are designated for the presence of grey seal. Given that the proposed site is located straddling the main navigation channel, it is possible that licensing of the additional site would displace otters from foraging activity. Seals are occasional visitors to the site but are not believed to be regular users of the site for haul out or breeding, they may however follow fish in main channel with tidal movements and may therefore be displaced.

Habitats

An AA was completed in relation to impacts on Bannow Bay SAC. A number of Natura 2000 features of interest were screened out of full assessment. A full assessment was then carried out on the likely interactions between aquaculture operations and features of interest for the Annex 1 habitat Mudflats and sandflats not covered by seawater at low tide (1140). The likely effects of existing and proposed aquaculture activities were considered in light of the sensitivity of the constituent community of the Annex 1 habitat 1140 that overlaps with the proposed intertidal oyster cultivation areas: Intertidal sand dominated by polychaetes community complex.

It is noted in the AA that, based on a review of oyster cultivation by trestles (Ford *et al* 2015 and Carroll *et al*, 2016) there is evidence to suggest that activities occurring at trestle culture sites are considered to be non-disturbing to intertidal soft sediment communities. While access routes used in intertidal areas, presumably by virtue of persistent compaction of the sedimentary habitats, are considered disturbing. For existing activities in the bay, the AA states that as the spatial overlap of the access routes is 0.85% for Fine sand with *Pygospio elegans* and *Corophium volutator* community complex (less than the stipulated 15% threshold) significant adverse impacts of activities on these community types can be discounted. However, the AA further notes that some sites appear to have considerable amounts of vehicular traffic contrary to the access routes outlined in the aquaculture profile and that this is particularly relevant in the sites on the eastern portion of the bay which appear to be used for transit to other sites or as storage of unused trestles. The AA notes that this activity is considered disturbing and contrary to the information provided on site use in the profiling for the AA. However, the AA concludes that notwithstanding this fact, significant adverse impacts of activities on the Qualifying Feature of 1140 (Mudflats and sandflats not covered by seawater at low tide) and its constituent communities can be discounted.

It is the Technical Advisors opinion that the cultivation of oysters, including within the proposed new licence area may have the potential to impact on the Intertidal sand



dominated by polychaetes community complex, the risk would be greatest along the proposed (indicative) access route detailed in the application for the proposed licence area. This opinion is based on our view that there is scientific **uncertainty** in relation to the impacts of oyster trestle cultivation under a range of tidal dynamics. Further we feel that there is insufficient accurate information on vehicular access to the proposed new licence areas. Therefore, the exact area of impact (compaction) as a result of vehicular traffic over particular marine community types is unknown.

Birds

The Application site is located within Bannow Bay SPA. Bannow Bay SPA is of international importance for non-breeding/wintering birds and is designated for the following birds of Special Conservation Interest:

- Light-bellied Brent Goose (*Branta bernicla hrota*) [A046]
- Shelduck (*Tadorna tadorna*) [A048]
- Pintail (*Anas acuta*) [A054]
- Oystercatcher (*Haematopus ostralegus*) [A130]
- Golden Plover (*Pluvialis apricaria*) [A140]
- Grey Plover (*Pluvialis squatarola*) [A141]
- Lapwing (*Vanellus vanellus*) [A142]
- Knot (*Calidris canutus*) [A143]
- Dunlin (*Calidris alpina*) [A149]
- Black-tailed Godwit (*Limosa limosa*) [A156]
- Bar-tailed Godwit (*Limosa lapponica*) [A157]
- Curlew (*Numenius arquata*) [A160]
- Redshank (*Tringa totanus*) [A162]

Bannow Bay is also designated for:

- Wetland and Waterbirds [A999]

Oyster cultivation has the potential to impact on wintering birds owing to disturbance and habitat change causing displacement. Thus, where oyster cultivation occurs within intertidal habitats and at sites used by wintering birds there is a likelihood of significant adverse effects and an Appropriate Assessment is required. An Appropriate Assessment was prepared for Bannow Bay and considered areas already licensed for aquaculture in Bannow Bay (existing oyster trestles) and those areas for which a license was being sought. New license applications were being sought for trial sites (trial areas with existing oyster trestles) and new applications (sites with no existing trestles).

The conservation objective for Bannow Bay is to maintain the favourable conservation condition of the SCI species, as defined by the attributes: **population trend** and **distribution**. The AA considered if the aquaculture in Bannow Bay would cause significant displacement effects on the SCI species (as listed above). Significant



displacement effects relate to the attribute distribution where the target is that there should be no significant decrease in range, timing or intensity of areas used by the bird species listed, other than occurring from natural patterns of variation. The AA considered that where aquaculture was assessed as causing less than a 5% decrease in the population of an SCI species, this was not considered to be significant.

The AA was initially completed in 2017 (Atkins, 2017). Displacement analysis in the AA predicted that full occupation of all aquaculture sites would cause high levels of displacement (9-15%) to the Bannow Bay Grey Plover, Dunlin and Bar-tailed Godwit populations. Up to significant or near significant displacement levels were predicted for other species. Owing to limitations in the available data the AA described that there was a high level of uncertainty to the predictions; actual displacement levels could therefore be significantly less or significantly greater than predictions. A precautionary approach was taken (as required by the AA legislation) with the conclusion that most species of SCI at Bannow Bay may be subject to adverse significant impacts from full occupation of aquaculture sites.

The AA was updated in 2018 with the addition of further survey data from BSI (2015, 2016) and an amended configuration of the aquaculture sites and the addition of some new sites (Atkins, 2018). The updated AA provides an updated assessment of displacement effects with the inclusion of additional data from 2014/15 and 2015/16. Displacement effects were predicted for three scenarios; renewal of existing licenses, renewal of existing and granting of trial licenses (in effect the licensing of trestles currently in place) and renewal of existing and granting of trial and new licenses (new licenses relate to areas currently unoccupied trestles). Any limitations in the data and the analysis were presented and discussed. Predictions were considered to be indicative rather than firm. With the granting of all licenses displacement effects of between 13 and 16% were predicted for Grey Plover, Black-tailed Godwit, Bar-tailed Godwit, Knot and Dunlin. The level of effect was reduced to between 6 and 7% and with the granted of existing and trial licenses only. Displacement effects were predicted to be <3% with the granting of existing licenses only. Significant or near significant displacement effects were therefore predicted for Grey Plover, Black-tailed Godwit, Bar-tailed Godwit, Knot and Dunlin under all scenarios except for the renewal of existing licenses i.e. no trial sites and no new licenses. The AA describes that with further analysis the predicted displacement effects could be refined. In particular count sector 00413 could be subdivided to account for different habitat types present. This sector supports both muddy sediments in the north of the sector and sandflats in the south. The muddier sediments support higher densities of birds than the sandflats thus lower displacement effects are likely from the sandflats. Targeted surveys would be required to confirm low occupancy of the sandflats.

Licensing of the aquaculture application site has potential to have significant impacts on the ecology Bannow Bay, including intertidal and subtidal habitats as well as species, including wintering birds, that utilise the site regularly.



6.6 General Environmental Effects

- Littering by plastic (lost trestle bags) presents a significant potential impact.
- There is potential for erosion of the adjacent shoreline by vehicular traffic accessing the site.
- There is potential for compaction over soft sediments as a result of vehicular traffic accessing the trestles.
- As outlined in the Appropriate Assessment for Bannow Bay SAC, the culture of large volumes of Pacific oysters may increase the risk of successful reproduction in Bannow Bay SAC. The use of triploid (non-reproducing) stock is the main method employed to manage this risk. Furthermore, the introduction of non-native species as ‘hitchhikers’ on and among culture stock is also considered a risk, the extent of which is dependent upon the duration the stock has spent ‘in the wild’ outside of Bannow Bay SAC

Licensing of the application site could cause significant impacts on the ecology of Bannow Bay including species that utilise the site regularly.

6.7 Effect on man-made heritage

The proposed licensing of the additional site being considered in the appeal will not significantly impact the known man-made heritage of the area, including coastal features, intertidal and subtidal features.

Licensing of the application site is unlikely to give rise to significant impacts on the man-made heritage of the area.

6.8 Section 61 Assessment Conclusions

Site Suitability

The site application under appeal is **suitable** for intertidal trestle culture of Pacific oysters for the following reasons:

- *Bannow Bay has a well-established and successful Pacific oyster (Magallana gigas Syn Crassostrea gigas) trestle culture industry.*
- *It has been demonstrated that oyster culture is an economically viable activity in Bannow Bay.*



The site application under appeal is **not suitable** for intertidal trestle culture of Pacific oysters for the following reasons:

- *The application site is located within Bannow Bay Special Protection Area and Bannow Bay Special Area of Conservation. Bannow Bay SPA is of international importance for non-breeding/wintering birds and is designated for a range of bird species.*
- *Licensing of further sites for the intertidal culture of oysters is likely to cause significant displacement levels for a range of protected bird species that regularly use Bannow Bay to be exceeded. Where there are no clear mitigation measures available to prevent the risk of the deterioration of the conservation status of specific shorebirds, the site is not considered suitable for licensing of further production units.*
- *The application site has a significant sub-tidal component and straddles the navigable channel.*
- *Some trestles will remain covered at low water, making regular husbandry difficult and presenting additional environmental and/or safety risks.*
- *The development will infringe on the approaches to New Quay and will create access difficulties for inshore and rescue vessels.*
- *The proposed site is located outside of the SUMS area.*
- *The gradient of the foreshore and the immersion regime of sections of the proposed site make it unsuitable for this type of aquaculture.*
- *Development of the site will require a new access point onto the foreshore and the impacts of this are undetermined.*
- *There may be potential for issues to arise relating to the carrying capacity of the site in terms of oyster production volumes, were this site to be licensed individually or in conjunction with some or all other applicant sites that are under appeal at time of writing this review.*

Other Uses

The proposed development would have a significant adverse impact on some beneficial users of Bannow Bay for the following reasons:



1. *Displacement of shorebirds could impact populations of wintering birds and reduce the ecological value of the area and hence affect tourism and nature conservation interests.*
2. *Restrictions on access to other users of the site will arise as a consequence of licensing of the new site, which will be outside of the SUMS area and straddles the navigable channel.*
3. *Due to its location, the proposed development is highly likely to affect the recreational and amenity value of the site for a wide range of other users including watersports, anglers, leisure boaters and general navigation interests.*

Statutory Status

The proposed development would have a **significant adverse** impact on the statutory status of the area for the following reasons:

1. *The licensing of new aquaculture sites (in addition to existing and trial sites) in Bannow Bay is predicted to have significant displacement effects (ie loss of habitat leading to a predicted decline in population) for five species for which Bannow Bay is designated a Special Protection Area for birds (Grey Plover, Black-tailed Godwit, Bar-tailed Godwit, Knot and Dunlin).*

*The conservation objective for Bannow Bay is to maintain the favourable conservation condition of the SCI species, as defined by the attributes: **population trend** and **distribution**. Significant displacement effects relate to the attribute distribution where the target is that there should be no significant decrease in range, timing or intensity of areas used by the bird species listed, other than occurring from natural patterns of variation. The AA considered that where aquaculture was assessed as causing less than a 5% decrease in the Bannow Bay population of an SCI species, this was not considered to be significant.*

The licensing of aquaculture for existing, trial and new sites in Bannow Bay would lead to displacement effects of between 13 and 16% for the species listed. The level of displacement was predicted to be less than significant only with the renewal of existing licenses. New aquaculture sites in Bannow Bay include that which is the subject of this Appeal.

2. *Adverse impacts on bird species and/or populations could affect the designation of the site as a Wildfowl sanctuary.*



The proposed development would have a **non-significant adverse** impact on the statutory status of the area for the following reasons:

1. *Bannow Bay is designated as an SAC for a range of Annex I habitats. Two designated Annex I habitats occurring within Bannow Bay 'Large shallow inlet and bay' and 'Mudflats and sandflats not covered by seawater at low tide' are likely to be impacted by the development. Intertidal culture of oysters is known to cause changes in sediment regimes with consequential impacts for seabed communities. However published information suggests that the scale of impacts from intertidal oyster culture is likely to be non-significant in this context.*

Economic effects

The proposed development would have a **significant beneficial** impact on the economy of the area for the following reasons:

1. *In granting the additional licence additional local employment opportunities would likely be created with an associated benefit to the local economy.*

Ecological Effects

Birds

The proposed development would have a **significant adverse** impact on the ecology of the area for the following reasons:

1. *It is likely that significant adverse effects on the avi-fauna of the area would arise as a consequence of the proposed licensing of an additional aquaculture site due to significant displacement effects (i.e. disturbance and loss of habitat leading to a decline in population) that are predicted for five species for which Bannow Bay is designated a Special Protection Area for birds (Grey Plover, Black-tailed Godwit, Bar-tailed Godwit, Knot and Dunlin).*
2. *The licensing of aquaculture for existing, trial and new sites in Bannow Bay would lead to displacement effects of between 13 and 16% for the species listed. The AA predicted that the level of displacement was less than significant only with the renewal of existing aquaculture licenses. The aquaculture site which is the subject of this appeal is a new site. Displacement effects are predicted to be greatest with the licensing of existing, trial and new sites. The existing and trial sites relate to existing in situ trestles. New application sites relate to the placement of new trestles on intertidal habitat.*

Fish



The proposed development would have a **non-significant beneficial** impact on wild fish for the following reasons:

1. *Placement of additional trestles on the foreshore could lead to the creation of further juvenile fish refuge habitat. Further wetted surfaces may support algal growth and colonisation and therefore foraging opportunities for juvenile fish.*
2. *Oyster trestles may provide additional foraging opportunities for predatory species such as seabass which may run between and beneath trestles with tidal water movement.*

General Environmental Effects

The development would lead to **significant adverse** general environmental effects as a result of the proposed development for the following reasons:

1. *Erosion of the adjacent shoreline by vehicular traffic accessing the site.*
2. *Compaction over soft sediments as a result of vehicular traffic accessing the trestles.*
3. *As outlined in the Appropriate Assessment for Bannow Bay SAC, the culture of large volumes of Pacific oysters may increase the risk of successful reproduction in Bannow Bay SAC. The use of triploid (non-reproducing) stock is the main method employed to manage this risk. Furthermore, the introduction of non-native species as 'hitchhikers' on and among culture stock is also considered a risk, the extent of which is dependent upon the duration the stock has spent 'in the wild' outside of Bannow Bay SAC*

Man-made Heritage

There would be **no impact** on the man-made heritage of value in the area as a result of licensing of the proposed site for the following reasons:

1. *The absence of any protected structures or recorded monuments in the area of the proposed aquaculture licence application as indicated by the Record of Monuments and Places.*

6.9 Confirmation re Section 50 Notices



There are no pertinent matters arising outside of the Section 61 assessment which the Board ought to take into account which have not been raised in the appeal documents. It is therefore 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.

Under S.I. No. 468/2012 - Aquaculture Appeals (Environmental Impact Assessment) Regulations 2012 an Environmental Impact Statement is required for aquaculture the Board determines would be likely to have significant effects on the environment. The Ministers file does not indicate that a pre-screening for EIA has taken place.

Environmental impact assessment means an assessment, to include an examination, analysis and evaluation to identify, describe and assess the effects of certain public and private projects on the environment including the direct and indirect effects of a proposed development on the following:

- (a) Human beings, flora and fauna
- (b) Soil, water, air, climate and the landscape,
- (c) Material assets and the cultural heritage, and
- (d) The interaction between the factors mentioned in paragraphs (a), (b) and (c) above

Having reviewed the proposed aquaculture project in relation to its potential impacts on the elements listed above (a to d) it is the opinion of the Technical Advisor that the proposed aquaculture site and its operation is unlikely to have significant effects on the environment by virtue of *inter alia*, its nature, size or location. We are of the view that in-combination effects are also unlikely. Therefore an environmental impact assessment in accordance with S.I. 468 of 2012 is not required.

8.0 Screening for Appropriate Assessment.

The Marine Institute on behalf of Department of Agriculture, Food and the Marine assessed the impact of aquaculture activities on Natura 2000 features for the Bannow Bay SAC (Site code: 000697) and SPA (site code 004033).

An AA was completed in relation to impacts on Bannow Bay SAC. A number of Natura 2000 features of interest were screened out of full assessment. A full assessment was then carried out on the likely interactions between aquaculture operations and features of interest for the Annex 1 habitat Mudflats and sandflats not covered by seawater at low tide (1140). The likely effects of existing and proposed aquaculture activities were considered in light of the sensitivity of the constituent communities of the Annex 1 habitat 1140 which overlap with current and proposed intertidal oyster cultivation areas namely; Fine sands with



Pygospio elegans and *Corophium volutator* community complex and, Intertidal sand dominated by polychaetes community complex.

It is noted in the AA that, based on a review of oyster cultivation by trestles (Forde *et al* 2015 and Carroll *et al*, 2016) there is evidence to suggest that activities occurring at trestle culture sites are considered to be non-disturbing to intertidal soft sediment communities. While access routes used in intertidal areas, presumably by virtue of persistent compaction of the sedimentary habitats, are considered disturbing. The AA states that as the spatial overlap of the access routes is 0.85% for Fine sand with *Pygospio elegans* and *Corophium volutator* community complex (less than the stipulated 15% threshold) significant adverse impacts of activities on these community types can be discounted. However, the AA further notes that some sites appear to have considerable amounts of vehicular traffic contrary to the access routes outlined in the aquaculture profile and that this is particularly relevant in the sites on the eastern portion of the bay which appear to be used for transit to other sites or as storage of unused trestles. The AA notes that this activity is considered disturbing and contrary to the information provided on site use in the profiling for the AA. However, the AA concludes that notwithstanding this fact, significant adverse impacts of activities on the Qualifying Feature of 1140 (Mudflats and sandflats not covered by seawater at low tide) and its constituent communities can be discounted.

It is the Technical Advisors opinion that the cultivation of oysters, including within the proposed new licence areas may have the potential to impact on the *Pygospio elegans* and *Corophium volutator* community complex within the vicinity of the existing and proposed new licence area. This opinion is based on our view that there is scientific **uncertainty** in relation to the impacts of oyster trestle cultivation under a range of tidal dynamics. Further we feel that there is insufficient accurate information on vehicular access to the existing and proposed new licence areas. Therefore the exact area of impact (compaction) as a result of vehicular traffic over this marine community type is unknown.

An AA was completed in relation to impacts on Bannow Bay SPA. A number of other SPAs also screened in for AA. Species of Special Conservation Interest and likely to be impacted by aquaculture activities were assessed. The assessment falls in two reports, one by Atkins (2017) and a further updated assessment with additional data and analysis by Atkins (2018). The assessment of adverse effects on SCI species is based displacement effects ie loss of habitat owing to trestle presence and disturbance associated husbandry activity

The AA Conclusion Statement by the Licensing Authority describes that displacement analysis in the original Appropriate Assessment Report predicted that full occupancy of all existing and applied for sites could cause:

- high levels of displacement (9 - 15%) of the Bannow Bay Bar-tailed Godwit, Grey Plover and Dunlin populations;



- significant, or near significant, displacement levels of around 5% to the Bannow Bay Light-bellied Brent Goose, Curlew and Redshank populations;
- measurable but non-significant displacement levels of 1.3-3.5% to the Bannow Bay Lapwing, Knot and Black-tailed Godwit populations; and
- negligible displacement levels of 0.1-0.2% to the Bannow Bay Shelduck and Golden Plover populations.

The re-analysis carried out following provision of additional data found that:

- Renewal of existing licences would appear to have acceptable disturbance impact levels on bird conservation features (see Table 4.4 of the Atkins report)
- Licensing of renewals and those previously considered trial licences, would potentially exceed the threshold of 5% displacement for a number of bird species including Grey Plover, Bar-tailed Godwit, Black-tailed Godwit, Dunlin and Knot (see table 4.4 of Atkins Report). The maximum likely disturbance calculated, under this scenario, was 7.9% for Knot
- The licensing of all sites in the bay, both existing activity and new areas, would potentially result in significantly high levels of disturbance, exceeding the 10% threshold for 5 shorebird species (see table 4.4 of Atkins Report).

With regards to cumulative Impacts the AA Conclusion Statement by the Licensing Authority describes that potential additional disturbing activities include beach recreation, bait digging, hand collection of shellfish and shore angling and states that the available information indicates that non-aquaculture related disturbance generating activities are unlikely to be causing significant impacts to the species covered in the assessment. The Licensing Authority also stated that consideration was given to potential effects on food resources by bait digging, shellfish collection and changing patterns of effluent discharge (i.e. nutrient inputs) and that there was no evidence that any such activities / proposed changes will cause a significant reduction in food supply for any of the SCI species.

The AA conclusion statement by the Licensing Authority reflects the AA reports prepared by Atkins (2017 & 2018). The reports by Atkins are considered to provide a rigorous assessment of the potential impacts of aquaculture on Bannow Bay SPA. The displacement analysis predicts displacement levels of greater than 10% where existing, trial and new licenses are granted. These levels drop to between 6 and 7% where existing licenses are renewed and trial licenses granted. Following a thorough review of the AA by Atkins (2017 and 2018) together with supporting documents (Gittings and O'Donohue, 2012 and 2106) the AA is considered to be adequate. Based on the AA, we agree that the granting of new licenses in Bannow Bay is likely to result in significant adverse effects on the SCI species of this SPA.

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



1. There is no scientific evidence demonstrating that aquaculture may impact on bird populations

With the development of the aquaculture industry in Ireland the potential for interactions with birds has long been considered. Oyster trestles occupy intertidal habitats of coastal and estuarine sites and these habitats also provide feeding and roosting sites for internationally and nationally important bird populations. Thus there is potential for displacement effects, disturbance and habitat change affecting feeding resources. Potential impacts are considered based on the nature of the shellfish farming (trestle location within intertidal habitats used by wintering birds, husbandry activity) and knowledge (research based) of the ecology of wintering birds (feeding requirements, disturbance effects). While there is a likelihood of impacts, published research investigating these potential impacts is limited to a few studies, both abroad and in Ireland. This presents a problem for sites which require Appropriate Assessment under the Habitats Directive; while there is sufficient evidence to show a likelihood of significant adverse effects, the research into these effects and which species are more or less effected is limited. In response to this gap in information the Marine Institute commissioned Atkins Consultants to study the effects of oyster cultivation on the spatial distribution of waterbirds across six sites in Ireland. The sites were all SPA's as well as supporting aquaculture development. The research was based on an extensive study and an intensive study. The extensive study aimed to identify whether there were consistent patterns of positive or negative association with oyster trestles across a range of sites. The intensive study was complimentary to the extensive study and aimed to identify consistent patterns of positive or negative association with oyster trestles at one site. The data from both studies was analysed at three spatial scales. The analysis tested the null hypothesis that within the study areas bird distribution was not affected by the presence of trestles. All methods of survey and data analysis are described together with any limitations. The results of the study were reported to the Marine Institute (Gittings and O'Donoghue, 2012) and were published in a peer reviewed journal Wader Study (Gittings and O'Donoghue, 2016). The results found that there were both negative, positive, neutral and variable associations between different bird species and oyster trestles. The need for further study at site level to investigate the patterns found, is acknowledged. However this study does provide evidence of negative and positive associations consistent across six sites and within an intensive study site.

Knowledge of wintering bird ecology and behaviour underpinned by scientific research (e.g. Gittins and O'Donoghue, 2016) into the effects of trestles on their spatial distribution provides evidence that aquaculture is likely to impact on bird populations. While further research is required there is sufficient evidence to show that oyster trestles have a negative effect on some bird species, causing displacement. Where birds are displaced from foraging or roosting habitat this can for example increase competition for food in other part of a site. Where a site does not have sufficient alternative foraging habitat, this can lead to impacts on a sites bird populations.



2. Most birds are located up stream of the application site so impacts will be minimal

Because of the location of the license the impact on bird populations is minimal compared to other areas.

The NPWS Conservation Objectives Supporting Document (Version 1, NPWS, 2012), shows use of sector 00413 by a range of wintering birds at low tide. The proposed application for oyster trestles lies within sector 00413.

The standard approach to counting wintering birds is to divide a site into sectors. Vantage points (VPs) are chosen and the sector is counted. The same VP covering the same sector boundaries is counted each year. This provides consistency in count data. The count sectors used for Bannow Bay were originally used for I-WeBs high tide counts and for consistency were also used for the NPWS Waterbird Survey Programme (2009/2010). They were also used by Inis/BSI for the 2014/15, 2016/17 and 2017/18 counts. The repeated use of the same count sectors means that the count units and count data are standardised between years and this gives validity to the data. The data can be used to compare site use at a sector level and to assess trends between years at a site level.

A review of the relevant documents (Atkins, 2017, Atkins, 2018) shows that the Application site is located with bird count sector 00413 (Saint Kiernans to Newtown). Atkins 2017 and 2018 list the data sources which have been used to complete to the assessment of bird distribution and displacement effects and described the consistency and any lack of consistency between the data sets available. The bird data presented by Atkins 2017 and 2018 shows that count sector 00413 is used Grey Plover, Black-tailed Godwit, Bar-tailed Godwit, Knot and Dunlin as well as Light-bellied Brent Goose, Shelduck, Lapwing, Curlew and Redshank. The assessment of displacement effects found that if all sites were granted a license (i.e. inclusion of the site that is the subject of this appeal), there would be significant displacement of Grey Plover, Black-tailed Godwit, Bar-tailed Godwit, Knot and Dunlin.

It may or may not be the case that the application site itself is not used by these species. However further targeted surveys of the application site would be required to determine site use at this scale. In their conclusion Atkins 2018 describe the need for targeted monitoring using customised count sectors designed to reflect the boundaries of the aquaculture sites and variation in substrate type. As described in the AA the subsite divisions used for the WSP (NPWS) and BSI (Inis Environmental) counts were defined for the purposes of monitoring broad patterns of waterbird distribution (4.39, Atkins, 2018) and not for analysing species distributions in relation to aquaculture.

Atkins (section 4.39, 2018) describes that sub site 00413 is divided by the main channel with contrasting habitat conditions either side of the channel; the southern side holds sandbanks that rapidly dry out as the tide recedes and appear to support very low numbers



of birds, while the northern side (where the licensed aquaculture areas are concentrated) hold muddier sediments. The discussion section within Atkins (2018; section 4) shows that there may be areas within the mid shore and count sector 00413 that hold less birds than others, reflecting the habitat types present either side of the main channel. Their assessment suggests that the lower bird numbers are likely in the sandier sediments south of the channel. The application site lies along the channel and includes sandflat edge to the south of the channel. Channel habitat can often be important for birds and as for other new application sites targeted monitoring is required to assess displacement effects at this scale.

3. Adequate management measures can be used to reduce the potential impacts of oyster farming on the environment.

The production cycle will be shortened, trestles removed between December and March, tractor use will be limited to two periods a year and trestle placement will ensure access to bird feeding areas further to discussion with bird specialists.

The conclusions of the AA for Bannow Bay predicted high levels of displacement to Grey Plover, Black-tailed Godwit, Bar-tailed Godwit, Knot and Dunlin should the existing, the trial and the new application sites be consented. The licensing of the existing aquaculture plus the trial sites was found to exceed the 5% threshold which reflects significant displacement effects for Grey Plover, Bar-tailed Godwit, Black-tailed Godwit, Dunlin and Knot. The licensing authority makes the case that where displacement effects are around 5% development is not precluded, but mitigation and /or appropriate management actions are required.

Permission has been granted in Bannow Bay for the existing and trial application sites. This has been done despite the 5% threshold of displacement effects being exceeded and on condition that an Adaptive Management Plan be prepared and implemented, together with a targeted monitoring programme for shorebirds.

The measures proposed by the Appellant should be considered together with the results of targeted monitoring and as part of an adaptive management plan for Bannow Bay SPA. Within this context management measures can be used to reduce impacts, however bird use of the bay must first be established given the likelihood of significant adverse effects as assessed in the AA.

The following is also noted: Gittings and O'Donoghue, 2016 "As it is likely to be the presence of the trestles that causes the major impact, and regular husbandry activity is an integral part of the cultivation process, there is probably little that can be done to significantly mitigate the impacts of existing intertidal oyster cultivation, short of reducing the area affected. Any future expansion of the industry will need to be carefully planned to avoid negative impacts to water bird populations".



10.0 Recommendation of Technical Advisor with Reasons and Considerations.

The grounds for appeal (substantive issues) have been considered, evaluated and responded to in previous sections of the evaluation report. The reasoning and considerations of the Technical Advisor with respect to the appeal are provided below and a final recommendation to the Board follows.

Bannow Bay is an SPA, the mid shore sector of Bannow Bay has been developed for aquaculture and the displacement of some bird species is likely to have occurred as a result. Existing and trial licenses have been granted despite an assessment of significant adverse effects at the 5% level. This grant of existing and trial licenses (ie no new areas of intertidal habitat have been licensed) is subject to the condition that detailed monitoring is undertaken and an adaptive management plan implemented. Until the results of the detailed monitoring are available doubt remains as the effects of licensing any new areas within Bannow Bay, including the Application site.

The Technical Reviewer has also considered recent rulings of the European Court of Justice with respect to interpretation of Article 6 (3)* of the Habitats Directive in so far as this considers the significance of effects of a project or plan (alone or in combination with other projects) in view of a designated sites' conservation objectives. European case law has firmly and repeatedly established how competent authorities should respond to applications for consent for projects or plans that may affect designated sites.

In (*Case C-258/11 Peter Sweetman and Others v An Bord Pleanála*), the Court ruled *inter alia* that: “Authorisation for a plan or project, as referred to in Article 6(3) of the Habitats Directive, may therefore be given only on condition that the competent authorities – once all aspects of the plan or project have been identified which can, by themselves or in combination with other plans or projects, affect the conservation objectives of the site concerned, and in the light of the best scientific knowledge in the field – are certain that the plan or project will not have lasting adverse effects on the integrity of that site. That is so where no **reasonable scientific doubt remains** as to the absence of such effects (see, to this effect, Case C-404/09 Commission v Spain, paragraph 99, and Solvay and Others, paragraph 67).”

Accordingly, considering the best available analysis at time of review which indicates that granting further aquaculture and foreshore licences as per the present appeal will cause predicted displacement effects for a number of protected bird species of between 13 and 16% if the existing, trial and new application sites are all consented., it is recommended that the aquaculture licence application that is the subject of this appeal is **not granted** on this occasion.

*In this context, articles 6(2), 6(3) and 6(4) of the Habitats Directive also apply to SPAs protected under the Birds Directive (ref. Article 7 of Habitats Directive).



11.0 Draft Determination Refusal /or Grant

It is recommended that the Minister's decision to refuse grant of aquaculture and foreshore licences in respect of the applications for site reference T3/96 be upheld.

Technical Advisor: MERC Consultants Ltd

Date: 27.4.2019



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