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17/01/24

Aquaculture Licence Appeals Board (ALAB)

Kilminchy Court

Dublin Road

Portlaoise

County Laois

R32 DTW5

Re: AP5/2023, Site Ref. T03/095A

Comments on the Technical Advisors Report (TAR) and the Dungarvan Waterbird Monitoring Report 2019/2020

Dear ALAB, thank you for providing me with an opportunity to comment on the above reports as set out in your letter of 07/12/23. When reading the comments below (my submission on the TAR and the KRC Dungarvan report) they should be read whilst taking on board my original observations that I made on 28/03/23 in response to the appeals made against the DAFM decision to grant me a licence.

Comments of the Technical Advisors Report (TAR).

Information of the dates and duration of site visits is very limited. The TAR states the date of site inspection as 9 September 2023. The TAR also mentions in Section 3.2.2 Angling Activity that

-'Anglers were seen within the area during the three site visits in August and September 2023.'

My concerns are as follows in regard to the TAR site visit information:

- No details of how long the site visits took on each occasion.
- No effort was made to monitor bird activity/take bird count therefore no effort to support or contradict the conclusion statement findings of the Appropriate Assessment for the SPA.
- The dates of the Technical Advisor (TA) site visits are outside the normal overwintering period for Species of Conservation Interest (October to March).
- No attempt to undertake even one overwintering period of bird counts/activity monitoring in Ballyteigue.

- The TAR is essentially a fairly quick and incomplete desk top study into an issue that has already undergone intensive assessment by various bird experts. The reason for this statement is highlighted later in my submission with specific examples.
- The TA hasn't even bothered to use the boundary of my actual application on the google earth images that are included in the report.

I include my own image (**Figure 1**) of my application on the Google earth background image which shows that the trestles are included within the area.



Fig. 1 Actual Location of my licence T03/095A as opposed to the erroneous location portrayed in blue outline in the TAR.

Below is a screen grab image of how my application is portrayed (in blue outline) in Figure 4 of the TAR. This isn't correct, and it is indicative of the poor approach the TA has taken to this important appeal. Not only very important from my perspective but also very important from the aquaculture industry viewpoint *viz* as to how they are treated during an appeal process.



Figure 4: Google Earth map (April 2021) showing existing (as per background image) aquaculture activity and the approximate areas for which the two new applications refer. The blue polygon thus approximates to the location of a new application for an existing area of oyster trestle structures (T/03/38A), whilst the red area approximates to the location of the separate application T/03/095A – the subject of this report.

In Section 3.3.5 of the TAR the TA cuts and pastes passages of text from the Wexford County Development Plan 2022-2028 with Wexford County Development Plan Objectives that the TA deems as relevant such as:

-Coastal Zone Management

-Tourism:

-Environmental Management:

-Biodiversity

In addition, in Section 7.3 Statutory Status of the TAR the TA goes on to reiterate the same topics that he deems as relevant to this appeal as per Section 61 c of the appeals process:

-Section 61 (c) considers the statutory status of the area under consideration including the provisions of any development plan. There are no specific statutory or development plans for Ballyteigue Bay. The County Wexford Development Plan promotes sustainable economic development, tourism and environmental protection, and reference is made under the headings Coastal Zone Management, Tourism, Environmental Management and Biodiversity which are relevant in this regard.

I had a look at the Wexford County Development Plan 2022-2028 also and I include the following excerpts of text which in my opinion are equally if not more relevant and which were overlooked by the TA:

12.6.2 Fisheries and Aquaculture

*-These sectors are an integral part of our coastal economy and co-exist in various locations with other marine sectors such as ports, marine leisure and tourism. As outlined in Chapter 6 Economic Development Strategy, the Council supports the **development of sustainable fisheries and aquaculture sectors**, driven by skilled workforces and **promotes sustainable industries that protect and enhance the social and economic fabric of rural coastal communities, which are dependent on these sectors**. The Council will continue to support the development of appropriate landside facilities and other developments that offer value added opportunities for these sectors. The Council will work with these sectors to promote improved marine litter management and the provision of reclamation facilities, as appropriate, in developments in coastal and maritime areas.*

In regard to the Fisheries and Aquaculture Objectives

It is the objective of the Council:

Objective CZM47

-To support the development of vibrant fisheries and aquaculture sectors that produce high quality foods, protect and enhance the social and economic fabric of rural coastal communities and conserves biodiversity around our coastline and ensures good marine litter management, and to support the development of associated landside infrastructure subject to compliance with Objective CZM46 and the proper planning and sustainable development of the area.

In regard to the The Blue Economy in Section 6.7.4 of the County Development Plan its states:

-The planning of the country's marine area is currently undergoing an ambitious programme of reform, with an impending new regime for the management of development and activities in Ireland's Marine Area (See Section 12.3 in Chapter 12 Coastal Zone Management and Marine Spatial Planning).

*The National Marine Planning Framework (NMPF) promotes the sustainable development of a thriving marine economy and the development of vibrant, accessible and sustainable rural coastal and island communities **while realising the potential of marine resources in a fair, balanced and transparent manner.** The Framework focuses on the development of key marine assets including **aquaculture** and fisheries, energy, marine aggregates and mining, ports, harbours and shipping and tourism.*

*The RSES recognises that as an island we are dependent on our seas for **trade**, fishing, energy and tourism, and it **supports the development of the marine resources and the Blue economy, while conserving biodiversity and ecosystem health.***

*The sea has, and will continue to be, a very important economic asset for our county. It provides **employment to many people in coastal areas making a valuable economic contribution to local communities in the county.** Dominant marine economic activities in County Wexford include ports, harbours and shipping, **seafood** and fisheries and tourism.*

*The Wexford coastline is 275km long and presents significant opportunities in terms of marine related development, continuing in the **traditional sectors** while exploring opportunities offered by off-shore energy production and marine biotechnology.*

In regard to the Aims of Wexford County Council regarding Aquaculture and Fisheries it states:

*-The Council aims to maximise the long-term contribution of the sea-fishing sector and inland fisheries to the county's economy and to the **maintenance of the social fabric of rural and coastal communities.** **Aquaculture activity is carried out in Wexford Harbour and Bannow Bay. Most aquaculture activity in Bannow Bay involves intertidal oyster cultivation, in addition to some mussel cultivation.***

Growth opportunity in the seafood sector lies in developing greater processing scale so as to capitalise on the supply of raw material. The sector has significant potential for sustainable growth in terms of value-added product in the areas of food ingredients, health and sport nutrition markets.

Indeed, Wexford County Council were very supportive of my application and in their response to the application they stated:

*-The Environment Section **have no objections to the proposed development, and in fact welcome it** as its presence will be used to highlight the need for good water quality to people upstream in the catchment and the need for them to carry out farming, licensed discharges etc in a sustainable manner.*

Despite the TA not capturing all of the relevant info from the Development Plan in his TAR, The TA states:

*-It is the considered opinion of the Technical Advisor that the proposed plan **does not have a significant impact with regard to the County Development Plan.***

I would argue that my application has a positive significant impact on the Wexford County Development Plan for the impact of oyster farming in the rural economy, adding scale to shellfish production in the county thus opening up value adding opportunities, for development of a tourist seafood trail in the county, provision of top class food to local restaurants adding to the tourist experience, development of a local oyster festival, **the positive ecosystem services afforded by bivalve aquaculture (a point completely ignored by the TA)** and for the reasons that Wexford County Council environment section stated in their supportive response to my application in the first instance. The latter point clearly demonstrates that Wexford County would see oyster farms in Ballyteigue as assisting with improving water quality and maintaining compliance with the Water Framework Directive.

All of the additionally relevant passages I have gleaned from reading the Wexford County Development plan and included here highlights a very key point in the approach that the TA has taken in writing up the TAR. **That approach is piecemeal/incomplete at best or wilfully overlooking/omitting to document supportive facts to my application at worst.** It's a theme that I will return to throughout my submission below.

5.0 Screening for Appropriate Assessment.

Section 5 of the TAR goes into Screening for Appropriate Assessment and then gives his views/observations. At this point before I go into the specific views that the TA raises in regard to the SPA AA. I would like to point out an extremely important overarching point which has a bearing on the interpretation of all SPA Appropriate Assessments of aquaculture and which ALAB Board Members should pay particular attention to. I discuss as follows:

The Misinterpretation of the Threshold Displacement value of 5% of an SCI species.

Possibly one of the most misunderstood pieces of information by the appellants and indeed the TA and others is the 5% displacement threshold. Given what is at stake here and the importance of this figure I'll leave nothing to chance and I will spend some time attempting to highlight what this famous figure of 5% or more displacement actually means.

Back in the 2014 the Marine Institute Ornithological Consultants Atkins produced the Appropriate Assessment of aquaculture in Dungarvan Harbour SPA.

Gittings, T. and O'Donoghue, P. undertook an AA on Dungarvan SPA. Dungarvan Harbour Special Protection Area: Appropriate Assessment of Intertidal Oyster Cultivation [including consideration of Helvick Head to Ballyquin SPA and Mid-Waterford Coast SPA].

This report is available at:

<https://wayback.archive-it.org/org-1444/20201126171322/https://www.agriculture.gov.ie/media/migration/seafood/aquaculturefores-horemangement/aquaculturelicensing/appropriateassessments/DungarvanHarbourAA240314.pdf>

Again, the TA would have known of its existence.

In it sections 2.54 to 2.56 the Authors of the Report discuss the rationale for deriving 5% as the threshold.

The report states:

Attribute 2 – Number or range (distribution) of areas used

2.54 Assessing significance with reference to attribute 2 is more difficult because the level of decrease in the numbers or range (distribution) of areas that is considered significant has not been specified by NPWS. There are two obvious ways of specifying this threshold: (i) the value above which other studies have shown that habitat loss causes decreases in estuarine waterbird populations; and (ii) the value above which a decrease in the total Dungarvan Harbour population would be detectable against background levels of annual variation.

*2.55 There have been some studies that have used individual-based models (IBMs; see Stillman and Goss-Custard, 2010) to model the effect of projected intertidal habitat loss on estuarine waterbird populations. West et al. (2007) modelled the effect of percentage of feeding habitat of average quality that could be lost before survivorship was affected. The threshold for the most sensitive species (Black-tailed Godwit) was **40%**. Durell et al. (2005) found that loss of **20%** of mudflat area had significant effects on Oystercatcher and Dunlin mortality and body condition but did not affect Curlew. Stillman et al. (2005) found that, at mean rates of prey density recorded in the study, loss of up to **50%** of the total estuary area had no influence on survival rates of any species apart from Curlew. However, under a worst-case scenario (the minimum of the 99% confidence interval of prey density), habitat loss of 2-8% of the total estuary area reduced survival rates of Grey Plover, Black-tailed Godwit, Bar-tailed Godwit, Redshank and Curlew, but not of Oystercatcher, Ringed Plover, Dunlin and Knot. Therefore, the available literature indicates that generally quite high amounts of habitat loss are required to have significant impacts on estuarine waterbird populations, and that very low levels of displacement are unlikely to cause significant impacts. However, it would be difficult to specify a threshold value from the literature as these are likely to be site specific.*

*2.56 If a given level of displacement is assumed to cause the same level of population decrease (i.e., all the displaced birds die or leave the site), then displacement will have a negative impact on the conservation condition of the species. However, background levels of annual variation in recorded waterbird numbers are generally high, due to both annual variation in absolute population size and the inherent error rate in counting waterbirds in a large and complex site. Therefore, low levels of population decrease will not be detectable (even with a much higher monitoring intensity than is currently carried out). For example, a 1% decrease in the baseline population of Turnstone would be a decrease of two birds. The minimum error level in large-scale waterbird monitoring is considered to be around 5% (Hale, 1974; Prater, 1979; Rappoldt, 1985). Therefore, any population decrease of less than 5% is unlikely to be detectable and, for the purposes of this assessment, 5% has been taken to be the threshold value below which displacement effects are not considered to be significant. This is a conservative threshold, as error levels combined with natural variation are likely to, in many cases; prevent detectability of higher levels of change. **This threshold is also likely to be very conservative in relation to levels that would cause reduced survivorship (see above).***

My Comments

The same explanations are reiterated verbatim in the Appropriate Assessment for Ballyteigue SPA in sections 2.67 to 2.70. So, they haven't changed. The TA would have been aware of them and hopefully their meaning too although I'm not so sure of the latter. An Taisce and other appellants automatically assume that a significant negative impact on birds at 5% and above. This is incorrect.

The underling and bolding (above) that I have used on the excerpt above is to highlight the authors own words as to how conservative this 5% figure is. This newly derived threshold is basically the level at which any potential impact may be detected as separate from natural variation in the population or the variation created by difficulties monitoring the birds. It is simply a **screening threshold** below which it is pointless continuing to assess as it is indistinguishable from natural variations. **Above 5% does not represent a significant impact. It just means there is a potential but that it requires further assessment to determine if there is an actual negative impact.** The author explains this in 2.58 below. Unfortunately for the aquaculture industry this incredibly conservative threshold (a screening threshold in reality) has been misinterpreted by the appellants and the TA and potentially by ALAB members and is used in an even more conservative manner in that it is wrongly assumed that there is a negative impact above 5% all of the time. This is incorrect and has transcended into a myth which people like the appellants to my licence use to their favour.

2.58 Impacts that will cause displacement of 5% or more of the total Dungarvan Harbour population of a SCI species have been assessed as potentially having a significant negative impact on attribute 2 of the conservation objectives (the species' distribution within Dungarvan Harbour). In this context, displacement may involve birds moving to other areas within the SPA or leaving the site altogether.

This has to be borne in mind especially in light of the predicted potential displacement impact of Grey Plover in Ballyteigue was only 4.6-4.9% if all licences were granted and the sites fully occupied being determined. Other adjustments such as using maximum instead of mean bird occupancy at the two count sub-sites. In other words, even with worst case scenario the potential (not actual) displacement was indistinguishable from background natural fluctuations in population or noise created by difficulties in monitoring.

This is borne out in the tabulated information shown below (Table 5.2 from the Ballyteigue SPA AA) of the short-term changes and long-term changes for Ballyteigue as opposed to the national trend for Grey plover. It appears grey plover are doing extremely well (possibly one of the best grey plover performing bays in the country going by those very positive figures. Doesn't look like my site is doing them any harm at all.

Table 5.2 –Short-term and long-term percentage changes in the population estimates for the SCI species in the Ballyteigue Burrow SPA compared to the national estimates.

Special Conservation Interests (SCIs)	Short-term change		Long-term change	
	Ballyteigue Burrow	all-Ireland	Ballyteigue Burrow	all-Ireland
Light-bellied Brent Goose	-3%	-15%	+35%	+96%
Shelduck	-2%	-14%	-68%	-30%
Golden Plover	-61%	-24%	-56%	-44%
Grey Plover	+38%	-6%	+59%	-54%
Lapwing	-52%	-16%	-81%	-67%
Black-tailed Godwit	+86%	+4%	-30%	+45%
Bar-tailed Godwit	+14%	+4%	-2%	+6%

Note: The percentage changes are the changes between the mean annual peak counts (Ballyteigue Burrow) and the mean annual peak estimates (all-Ireland) between the periods 2006/07-2010/11 and 2011/12-2015/16 (short-term) and 1994/95-1998/99 and 2011/12-2015/16 (long-term). Ballyteigue Burrow percentage changes calculated from I-WeBS data. All-Ireland percentage changes from Burke *et al.* (2018).

The TA doesn't opt to use the table above from the SPA AA in his TAR but rather uses the following Table below (Table 3 in the TAR) generated by Birdwatch Ireland which:

-undertook an analysis of trends in waterbird populations, analysing the trends of those species for which sufficient data was available over the period 1994/95-2019/20 (last updated 17/08/2023). Shown in Table 3 for 15 species (10 waders; 5 other),

Of note is that Grey plover is still doing remarkably well in Ballyteigue Bay in comparison to the national picture over the last 23 years. During that time, I was present in Ballyteigue Bay oyster farming. There is no hiding that fact.

Table 3. Trends in abundance of selected species at Ballyteigue over short-, medium- and long-time period.

Species	5-year trend (%) 2014/15- 2019/20	12-year trend (%) 2007/08- 2019/20	23-year trend (%) 1996/97- 2019/20	Classification (long-term) ⁶	National trend (22 year) ⁷
Golden Plover	-33.9	-87.2	-77.0	Large Decline	-43.4
Lapwing	-13.7	-66.8	-76.7	Large Decline	-67.6
Bar-tailed Godwit	-59.6	-21.6	-47.2	Moderate Decline	+31.7
Wigeon	-9.3	-37.1	-43.6	Moderate Decline	-39.2
Black-tailed Godwit	-47.6	-63.5	-43.3	Moderate Decline	+77.7
Curlew	+4.6	+1.5	-43.3	Moderate Decline	-41.0
Shelduck	-9.0	-12.6	-40.0	Moderate Decline	-23.0
Dunlin	+10.0	+27.5	-24.1	Intermediate Decline	-63.0
Light-bellied Brent Goose	-34.1	-41.7	-12.4	Intermediate Decline	+96.1
Grey Plover	-14.9	-3.9	0.0	Stable/Increasing	-61.8
Oystercatcher	+24.4	+2.0	+4.1	Stable/Increasing	+21.5
Ringed Plover	-31.2	+140.9	+35.9	Stable/Increasing	-6.6
Redshank	+38.6	-17.7	+46.3	Stable/Increasing	+11.2
Mallard	+72.6	+409.5	+10.98	Stable/Increasing	-26.1
Teal	+28.6	+230.0	+135.7	Stable/Increasing	+4.1

In addition to the above important point I have to make another very important point regarding the lack of consideration of several highly relevant reports concerning bird monitoring in Bannow and Dungarvan. These are:

The Marine Institute (MI) also have undertaken follow up post-licencing bird monitoring studies in Bannow Bay (6 Reports) and Dungarvan Harbour (7 reports) which are publicly available at the following link:

<https://emff.marine.ie/marine-biodiversity/measure-effectiveness-mitigation-measures-managed-activities-aquaculture-1>

The Bannow Bay reports as follows:

Marine Institute Bird Studies Winter Waterbird Survey Bannow Bay SPA, County Wexford.2017-2018
 Marine Institute Bird Studies Winter Waterbird Survey Bannow Bay SPA, County Wexford.2018-2019
 Marine Institute Bird Studies Winter Waterbird Survey Bannow Bay SPA, County Wexford.2019-2020
 Marine Institute Bird Studies Winter Waterbird Survey Bannow Bay SPA, County Wexford.2020-2021
 Marine Institute Bird Studies Winter Waterbird Survey Bannow Bay SPA, County Wexford.2021-2022
 Marine Institute Bird Studies Winter Waterbird Survey Bannow Bay SPA, County Wexford.2022-2023
 All of the above Bannow Bay Reports were written by Inis Environmental Consultants Ltd; the same Consultancy that I commissioned for the BTWBS Report 2018-2021.

The MI Dungarvan Reports are as follows:

Marine Institute Bird Studies Dungarvan Harbour SPA: Monitoring of waterbird distribution across the tidal cycle.2014-2015 (by Atkins)

Marine Institute Bird Studies Dungarvan Harbour SPA: Monitoring of waterbird distribution across the tidal cycle.2016-2017 (by Atkins)

Marine Institute Bird Studies Dungarvan Harbour SPA: Monitoring of waterbird distribution across the tidal cycle.2017-2018 (by Atkins)

Marine Institute Bird Studies Dungarvan Harbour SPA: Monitoring of waterbird distribution across the tidal cycle.2018-2019 (by Atkins)

Marine Institute Bird Studies Dungarvan Waterbird Monitoring 2019/2020 (**by KRC Ecological Ltd of which the TA that ALAB are using in this appeal is the company Director**). **This is the only one of these valuable reports sought by ALAB.**

Marine Institute Bird Studies Dungarvan Harbour SPA: Monitoring of waterbird distribution across the tidal cycle.2020-2021 (by Atkins)

Marine Institute Bird Studies Dungarvan Harbour SPA: Monitoring of waterbird. 2021-2022 (By Atkins)

All of these studies Measure the effectiveness of mitigation measures of managed activities (aquaculture) carried out in Natura sites – monitoring and baseline data collection. The project states that the expected benefit of the work was:

-Validation of licencing decisions taken at sites to allow adaptive management of aquaculture in Natura sites

-This project was designed to measure the effectiveness of management or mitigation measures taken as part of aquaculture licencing decisions to reduce or minimise risk to conservation features. Such measures are likely to be of the form of, 1) licence conditions that place certain constraints on activities in certain areas or, 2) redrawing site boundaries. The response of the conservation features to such measures will have to be considered.

The question is why was the KRC Report pertaining to Dungarvan Harbour 2019/20 the only one requested from the MI? Surely the TA was aware of the existence of the others relevant reports?

There is some very relevant information to be found in the MI Commissioned Bird Studies which I will mention below. On the other hand, ALAB have sought a report written by the TA for a completely different bay (Dungarvan Harbour) which does have some significant differences. Dungarvan Harbour is an open oceanic bay and has a very different bathymetry, sediment types (particularly in the outer intertidal harbour east of the Cunnigar sandspit) and has a large town on its shores. Furthermore, it has the largest concentration of oyster farming in any bay in the country which is on the opposite end of the scale to my application of 1.6459ha. Bannow Bay would be closer and have more similarities with Ballyteigue bay. Most of my access to my licence will be by foot as opposed to the numerous tractors accessing the production area in Dungarvan Harbour. So, it is worth bearing in mind these points when making the comparisons.

Despite this mystery of cherry picking one MI Report (the one that the TA actually was the author of) the other reports mentioned above should be used by ALAB in the appeal process hence I include as they have some interesting findings in them especially the recent years they are having important realisations.

The MI commissioned bird reports make for some very interesting reading.

In Winter Waterbird Survey Bannow Bay SPA, County Wexford.2022-2023 it states in section **4.8.6.**

Grey Plover

*-Total site numbers of Grey Plover peaked at just 18 individuals during winter 2022/23. This is the lowest total count in the nine-year dataset. The site trend is for decline, which is against the backdrop of a national trend for decline. **Reasons for the decline in numbers wintering in Ireland is unknown, but satellite tracking results have shown Ireland to be on the extreme western edge of the species' flyway, and therefore short-stopping, i.e. the birds simply not migrating as far west as Ireland, may be a reason (Exo et al., 2019).***

In the Marine Institute Bird Studies Dungarvan Harbour SPA: Monitoring of waterbird.2021-2022 Dungarvan report by Atkins they state in **section 4.1. Low tide counts:**

*-The overall numbers and distribution patterns of most species were broadly in line with expectations based on previous monitoring data and general knowledge of distribution patterns in Dungarvan Harbour. However, two of the target species (Grey Plover and Bar-tailed Godwit) occurred in very low numbers. **The low numbers of Grey Plover that we recorded reflects the phenomenon of Grey Plover disappearing at low tide that was apparent from the tidal cycle monitoring, and which we have discussed in previous reports. This may be due to birds roosting at low tide in creeks in the Inner Harbour Main, where they are not visible from shoreline vantage points.***

*The low numbers of Bar-tailed Godwit were more unexpected as the daily maxima during the tidal cycle counts were usually recorded at low tide. During the Bar-tailed Godwit feeding study, around 200-400 Bar-tailed Godwit were recorded on Ballyrandle Sandflats on each of the five survey days, but **on some days they were absent for a significant part of the low tide period. Therefore, it seems likely that the low numbers recorded on the low tide counts were caused by birds being missed due to their movement patterns, rather than a real decline in numbers. The above issues with the Grey Plover and Bar-tailed Godwit counts reflect general issues with low tide counts as a method of monitoring population sizes. At low tide birds move around more than at high tide, so birds can be missed, or double-counted, depending on their movement patterns, relative to the sequences in which the sectors are counted. There is also a much larger area to cover at low tide, with more opportunities for birds to be hard to detect due to distance and / or topography.***

To give the TA some credit he used GPS tagging methods In the KRC Dungarvan Report 2019-2020 in Figure 9 they state and show:

*-Use of areas outwith the core Dungarvan site by GPS tagged Grey Plovers during January/February 2020. The use of inland areas at the Gold Coast Golf Course, SW of Dungarvan at Ring and ca. 8km SW of Ring towards Ardmore **is unexpected. Overall 43.5% of fixes of the tracked birds came from sites outwith Dungarvan Harbour itself.***

The above snippets from several reports would indicate that there are different reasons for birds disappearing at low tide or disappearing temporarily from the SPA and that it could well be that aquaculture has nothing to do with it.

However, despite evidence that Grey Plover 'prefer' certain areas in the inner Harbour/upper Whitehouse Bank and golf courses and land outside the SPA the KRC goes on to describe this as 'actively avoiding' trestles in the following explanation:

-To increase sampling effort around all tidal and day/night stages, we tracked the movements of eight Grey Plovers using high resolution GPS in January-February of 2020, acquiring GPS positions continuously at 40-minute intervals. These tracked birds spent ~ 41%

of their time outside the main site (above the Dungarvan HWM or outwith the SPA entirely). They primarily utilised the Inner Harbour area but 25% of 'in site' positions were on the upper sections of Whitehouse Bank on ebb of flood tide phases. Resource selection analyses indicated that across all states of the tide, Grey Plovers actively avoided trestle areas and the corridor in-between by day and night; just 0.3% of positions (from ~ 4,900 observations) being recorded on trestles or in the corridor.

That's the equivalent of seeing a flock of grey plover feeding on land and declaring that they are actively avoiding trestles. It's absolutely ludicrous. Using this logic, one could say that Brent Geese feeding on top of oyster bags are actively avoiding other areas of green shore or are actively avoiding land. Utter nonsense. **The birds are choosing preferential areas not actively avoiding them.**

The 21-22 latest MI commissioned report from Dungarvan Harbour states in **Section 4.2. Population trends**

- *The population trends presented in this report include the data from the 2021/22 low tide counts (and also include data from the 2009/10 Waterbird Survey Programme low tide counts, which are part of the I-WeBS dataset). Therefore, some caution should be applied to the interpretation of these trends, due to the issues with using low tide counts to monitor population sizes. In particular, **the large declines in the Grey Plover and Bar-tailed Godwit indices in 2021/22 may be spurious** for the reasons discussed above (which I highlighted in 4.1 above). **The I-WeBS data for the early part of the I-WeBS period is also quite limited, with only one or two counts in many of those winters. This means that the index values for those winters are based on high components of imputed counts. Despite the above issues, the overall trends for many species are broadly similar to the national trends, or regional trends. In particular, the trends for the six target species do not appear to be obviously different from the national trends, which may indicate a lack of impact from oyster trestle cultivation.***

At last the ornithologists through successive studies are beginning to come to a realisation. So, there are big external factors at play here along with local difficulties in capturing real reasons for bird movement within a bay or their supposed disappearance.

Seven successive years of studies in Dungarvan that has the largest oyster production of any bay in the country and they realise now that their data - **may indicate a lack of impact from oyster trestle cultivation.**

And here's my little 1.6459ha licensed site being shot down by the TA in this appeal case.

However, things may be better on the Grey Plover, even the KRC Dungarvan Report states that:

-Preliminary analysis of I-WeBS trends at the site showed that the local population of Grey Plover has seen a significant marginal increase over 10 years at the site whilst Dunlin, Knot and Bar-tailed Godwit have remained stable.

This despite the same report stating that horror stats at national scale:

-This is contrary to the overall long-term (1994/95 – 1998/99; -54.3%) and short-term (2006/07 – 2010/11; -5.8%) declines in Grey Plover numbers in Ireland as a whole (Burke et al. 2018).

The SPA AA shows the Grey plover long term trend at Ballyteigue as +59% and short term trend as +38%. So that's two bays in the southeast that contain aquaculture bucking the negative national trends for Grey Plover **by extraordinary margins**.

Huge state resources have funded many man hours of ornithological expertise looking at the effectiveness of mitigation measures used to manage licenced aquaculture. Indeed, the TA knows this as he has undertaken such work for the MI (documented above) and indeed **it is the only report that ALAB have sought** and the only one that I have been asked to make observations on. This is the KRC report.

I ask again why were all of the other reports commissioned by the MI in Dungarvan and particularly Bannow Bay (a lot closer to Ballyteigue) not sought by ALAB? Why hasn't the TA made reference to these in making a 'considered' opinion. The Marine Institute (MI) in their more extensive work **are reassured that aquaculture isn't doing anything to exacerbate anything as the declines are mirroring national declines**. So, I will now go down through the comments that the TA makes on some of the specific issues that he raises with the SPA Appropriate Assessment of the aquaculture applications in the in Ballyteigue Bay.

From Section 5 of the TAR:

-The SPA Appropriate Assessment identifies that there was very limited information available on the current and proposed aquaculture activities at Ballyteigue Bay in the preparation of their report. Consequently, they have based some of their predictions on potential impacts (e.g. displacement) based on their experience of interactions of waterbirds and trestle structures from other sites. Further, they highlight this is a particular issue for the assessment of potential disturbance impacts which are related to site-specific behaviour stroke husbandry operations.

The absence of site-specific information on aquaculture husbandry activities (e.g., timing, extent, frequency, scale etc.) does limit the ability to understand/predict the potential effects of the proposed developments on the SCI and other species. This is due to the potential additive impact of disturbance (above loss of habitat within the 'footprint' of the trestle structures) which has the potential to cause significant displacement effects.

My comment:

Did the TA not see any husbandry activity during the site visits? Did he not read the details of my application which detailed the site layout, the proposed maximum number of trestles, the types of trestles etc. Oyster husbandry activity is well known nationally. The SPA AA gives a generic description of the husbandry activity. It even states that husbandry will not happen on every low spring tide due to the size of the proposed aquaculture sites which are very small oyster farms.

We are a small licence and even the SPA AA captures this in Section 6.10.

-At Ballyteige Bay, the small size of the aquaculture sites means that husbandry activity is only likely to take place on a proportion of low tides, rather than on every low tide. During the 2011/12 WSP survey, aquaculture activity was only recorded on one of the four low tide counts (NPWS, 2014a).

From Section 5 of the TAR:

-The AA identified that there was very limited waterbird data available for the assessment. In particular, there was no-fine scale spatial data available to understand distributional patterns within the site as a whole other than one season of data (from 2011/12).

Understanding the potential effects of potentially-impacting activities at waterbird sites requires fine-scale, within-site, information in order to understand potential effects. For example, repeated counts across multiple months/years, recording abundance and behaviour at sub-site scales within sites, make it possible to identify the most/least important areas for all/most or individual species. It is also often possible to understand the relationship between behaviour and activity patterns in relation to tide levels, weather, and other factors (e.g., disturbance) on distribution.

My Comment:

I am submitting the link to the publicly available reports commissioned by the MI into follow up bird studies at bays with managed aquaculture within. They should be taken into consideration given that they are now pointing to the fact that oyster farming doesn't appear to be significant in the fate of the usual SCI species. I would argue that there may be positive effects from aquaculture that are causing some positive trends in SCI species. This could be down to improved water quality due to shellfish feeding and increased biodiversity as a result of oyster farm structures.

From Section 5 of the TAR:

-The AA assessment undertook the displacement analysis based on count data from four months in one year. They identify that, in doing so, there is a high degree of uncertainty and the inferences arising.

Given the large number of factors which determine the spatio-temporal variability of waterbird usage within a site (for example, effects of season, tidal conditions, disturbance, temperature, food availability, competition etc), undertaking robust analyses such as was attempted for the AA assessment requires multiple surveys, across multiple months/years/tidal states, and as described above, collecting data on abundance, activity/behaviour for all species at fine spatial scale.

My comment:

The TA suggests that reaching conclusions on, for example, potential displacement effects in the absence of such data, is fraught with so much uncertainty as to be questionable. Again, the point that I am making here is that my three years of professionally commissioned impartial winter bird survey work undertaken in recent years is being ignored. Furthermore, even in the absence of taking on board the findings of the BTWBS report 2018-21 one has to remember that the Marine Institute (the competent authority in Appropriate Assessments for the DAFM related aquaculture applications) approached the SPA AA with a **worst-case scenario approach**.

To quote directly from the MI AA Conclusion Statement:

-Any data constraints were adequately dealt with via the adoption of worst-case assumptions in the analysis and prediction of displacement impacts. The worst-case scenario was adopted to account for the potential that SCIs may gather along the channel proximal to the licence areas. In addition, it is assumed that the aquaculture sites are fully occupied by trestles.

The assessment of potential displacement effect of the proposed aquaculture activities in the SPA AA report followed worst-case principles by adopting the following assumptions:

- 100% trestle occupation within both aquaculture sites;

- Assuming the maximum, instead of mean, rate of occupancy in the two bird count subsites; and
- Increased the categorical 'Assessment of significance' in Table 7.5 from not significant/measurable (4.6% – 4.9%) to significant, on the basis that Grey Plover are known to exhibit negative behavioural responses to trestle cultivation.

Despite such an approach for Grey Plover (a major focus of the TA's report) the AA Conclusion statement states that:

*-The positive short and long-term population trends in the Ballyteigue Burrow SPA (38% and 59% respectively) relative to the overall negative trend of the national population of Grey Plover (-54%) are presented. **These lines of evidence provide a good indication that this SCI will not be significantly affected by the proposed aquaculture activities.***

From Section 5 of TAR:

-The AA concluded that there is likely to be a measurable displacement impact to Grey Plover which may be significant when potential displacement due to disturbance is considered. They also note that the population trend data for this species does not show any evidence of impacts from increasing levels of oyster trestles during the period 2008-16. On this basis, it is likely the displacement impact will be substantially lower than the calculated impacts for the two sites assessed. As mitigation they recommend that site activities are confined within the licenced blocks as well as maintaining strict adherence to access routes.

Notwithstanding the previous observations with respect to the inadequacy of data on which displacement effects were calculated, a number of factors are relevant with respect to this species. These include (a) a rate of national decline amongst the highest of all wader species, (b) the fact that individuals are highly site-faithful in wintering grounds (where they defend wintering territories), (c) a well-documented avoidance of trestle structures, and (d) sensitivity to disturbance.

My Comments:

The SPA AA reduced the very conservative threshold of 5% down to 4.6-4.9% (within the insignificant region viz background variation of annual numbers/fluctuations depending on intensity of monitoring. Predicted levels of displacement for grey plover was 4.6-4.9% based on full occupation of both licenced sites and maximum bird occupancy at the sub-sites. That's why they are confident that there will be no significant negative impacts. The rate of national decline of grey plover is turned on its head in Ballyteigue Bay as it is going up by 59%. The KRC report executive summary shows that aquaculture activities were not disturbing:

-4. Preliminary analysis of I-WeBS trends at the site showed that the local population of Grey Plover has seen a significant marginal increase over 10 years at the site whilst Dunlin, Knot and Bar-tailed Godwit have remained stable.

-8. There was no significant effect of disturbance from vehicles/personnel associated with aquaculture and bird numbers in the corridor and generally over Whitehouse Bank

In addition the KRC report discussion section confirms what I have known all along in that the birds prefer the muddier areas in the bay where presumably prey food is more abundant. The location of my site is sandier and with more stones hence better for supporting trestles. The birds prefer other locations.

-Within Dungarvan Harbour we found numbers were generally higher on the Inner Bay (within the Cunnigar) and there is some evidence that this is due, in at least part, to the likely higher invertebrate food densities in the muddier sediments. We were unable to process invertebrate samples within the timescales of the project, but did analyse sediments across the sectors and, since there is a well-established relationship between sediment type and invertebrates (wader food resources higher in muddier sediments) we suggest this is a useful proxy. We suggest that this overall variation in waterbird abundance within the site is largely attributable to sediment composition.

From Section 5 of TAR:

*-The predicted displacement impacts to Light-bellied Brent Goose and Wigeon were described as significant. However, there was a high level of uncertainty about the prediction, due to the variable nature of the responses of these species to oyster trestle cultivation. **The view of the Technical Advisor is that the effects on Light-bellied Brent Geese are indeed less clear/variable, with good evidence from many sites that the species exploits green algae on or near trestle structures and do indeed habituate, to some extent, to aquaculture husbandry activities.***

My comment:

In relation to Light Bellied Brent Geese the MI AA Conclusion Statement states that:

-Recent studies on Carlingford Lough in 2020 on behalf of the Marine Institute, further explored the relationship between Light-bellied Brent geese and oyster trestles, and concluded that:

- *Light-bellied Brent Geese using the areas are well habituated to aquaculture activity and generally undisturbed by it;*
- *They forage and roost amongst and on top of the oyster cultivation structures (trestles and bags) on almost all tides, particularly Light-bellied Brent Goose who exploit the fact that green algae grown on the oysters).*

This evidence gives further confidence that Light-bellied Brent Geese will not be negatively affected by the proposed aquaculture activity.

However, the TA elaborates further despite overwhelming evidence of Light Bellied Brent Geese foraging on top of trestles:

-However, in the absence of detailed energetic calculations it is impossible to understand whether the net effects of foraging on/near aquaculture structures is neutral, positive or negative for this species.

So, despite the MI report from Carlingford, the constant use of these birds on top of trestles in Ballyteigue and Bannow Bay in Autumn (which I referred to in my first submission), the TA attempts to dodge this reality by bringing energetics into it. Logically if the Brent Geese are using the algal resource on top of my oyster bags then it is because it is either favoured over grazing in fields or other areas of green around the shore or at the very least it is better than starving in the absence of any other food supply. Either way it is energetically beneficial to eat the algae on the bags which would not be present in the first place if it wasn't for the bags on the trestles and the trestles on the shore.

From Section 5 of the TAR:

-The predicted displacement impacts to all other species are either negligible or not significant. The authors conclude that the limitations of data availability mean that there is a moderate level of uncertainty about these predictions.

As described above, the inadequacies of the available data (with respect to the spatio-temporal availability of count information), makes it difficult to generate robust displacement assessments and therefore generate conclusions about the potential impacts of the proposed developments.

Overall, the many inadequacies highlighted in the Appropriate Assessment are so significant that many of the conclusions are unreliable. The many uncertainties expressed within the AA in this regard arise from the lack of sufficient data. In such circumstances it is simply impossible to conclude, beyond all reasonable scientific doubt, that the proposed activities will not have negative impacts on the QIs of the SPA. Case C-258/11/Sweetman & others v An Bord Pleanála & others, the CJEU held that: 'authorisation for a plan or project ...may therefore be given only on condition that the competent authorities....are certain that the plan or project will not have lasting adverse effects on the integrity of the site. That is so where no reasonable scientific doubt remains as to the absence of such effects.'

My comment:

There have been no lasting adverse effects from the presence of an oyster farm on the shore in Ballyteigue since the 1980's. The Appropriate Assessment of the SPA by the State and their AA conclusion statement does rule out significant negative impacts and thus the DAFM granted a licence. Follow up studies of managed oyster farming in Bannow Bay and Dungarvan Harbour reassure the MI that aquaculture is not causing lasting significant negative impacts and indeed there are other larger scale factors as the trends are not significantly different from site to national scale. Some very positive trends in Ballyteigue.

From the AA Conclusion statement:

-13.1 Having considered the conclusions and recommendations of the Appropriate Assessment process, the Licensing Authority is satisfied that, from a Natura 2000 perspective, a decision can be taken in favour of licensing proposed aquaculture operations in Ballyteigue Burrow SAC/SPA, subject to the mitigation measures referenced above. Accordingly, the Licensing Authority is satisfied that the proposed licensing of aquaculture in the Bay is not likely to significantly and adversely affect the integrity of Ballyteigue Burrow SAC/SPA.

The TA is going against:

- the expert opinion of the Marine Institute garnered during the ultra-conservative SPA AA process,
- the follow up MI commissioned bird studies in the region at aquaculture sites within SPA's

There is doubt in my mind as to whether the TA is like An Taisce and others misinterpreting the meaning of the 5% displacement threshold

The Remainder of Section 5 in the TAR briefly discusses the Screening of the SAC AA.

The TA uses the word 'likely' in the phrase *-These conclusions are likely sound* when describing the SAC AA conclusions. Couching his words again whenever there is something positive to say. So just in case there is any doubt in ALAB minds I have included points made in the MI AA Conclusion Statement below:

From the AA Conclusion Statement:

Findings of the Appropriate Assessment of Aquaculture in relation to the Ballyteigue Burrow Special Area of Conservation

5.1 *Based upon the spatial overlap and sensitivity analysis, it is concluded that aquaculture activities at trestle sites **do not pose a risk of significant disturbance to the conservation of the habitat features of Estuaries [1130] and Mudflats and sandflats not covered by seawater at low tide [1140] or their associated community types.***

5.2 *Aquaculture activity has the potential to act as a significant vector for the introduction of non-native species to the SAC, that have the potential to impact Qualifying Interest habitats and species for which the SAC is designated. **With strict adherence to the relevant legislation and best practice guidelines, there will likely be no significant adverse effects.***

5.3 *There is one access route in Ballyteigue Bay used by tractors and trailers to access main production areas of the Bay. Access routes overlap 0.17% of the Qualifying Interest 1130 and 0.20% of the Qualifying Interest 1140. **While access routes are considered disturbing, the extent of this disturbance is considered small and is considerably lower than the 15% disturbance threshold** (which must account for all likely disturbing activities). No other disturbing activities were identified that act in combination with the aquaculture activity (see Section 10 below).*

In regard to point 5.2 above: I will be applying to the Marine Institute for a Fish Health Authorisation. This has procedures in it for bio-security. I will only be using disease certified hatchery seed. In all the years that there has been oyster farming in Ballyteigue Bay I believe there is no evidence of introduction of a non-native species to the SAC by oyster farming. Add in the ecosystem services that my oysters will provide and the increase in biodiversity that my oyster farming structures will provide and there is no doubt that my operation will not have a significant environmental impact on the SAC. The opposite in fact.

In **Section 6.0 Screening for Climate Change Impacts** the TAR states that:

-the 2023 Climate Change Action Plan does not specify any particular actions to be required for aquaculture.

My Comment.

Oyster farming is one of the lowest carbon footprints of any protein production. It also removes Nitrogen and Phosphorus through feeding on algae and incorporation into tissues along with benthic pelagic coupling leading to enhanced denitrification in sediments. Thus, given that we are now experiencing global warming the importance of the positive ecosystem services of bivalve shellfish farming will be even more important to prevent eutrophication and its associated oxygen deficit problems. Clearly a missed opportunity by the TA to reemphasise these positive services that I included in my original submission.

In Section 7.0 Section 61 Assessment the TAR states that:

-Section 61 (a-e) of the Act outlines the matters which the licensing authority shall take account of when an application for or an appeal regarding an aquaculture licence is being considered. This section is used to assess the impact of the proposed aquaculture development under these headings, which are listed in **6.1 – 6.7 below**.

My Comment:

There are no headings in the TAR from 6.1-6.7. I assume this is an error and that the TAR should read 7.1-7.7. If there are missing paragraphs under 6.1-6.7 could you please send them on to me.

In Section 7.1 Site Suitability the TAR states:

*-The two sites under consideration are so close together to make it necessary to consider them together from an ecological standpoint. One of these sites (T03/038A) appears to be an application for what is an area of existing aquaculture with bags and trestles but no evidence of attendance during the short multiple visits made. As such, **this application would appear to be a retrospective licence for an aquaculture site already in existence** (operational status unknown). The second application (T03/095A), would appear to propose to have an easting at the western extremity of ca. 50m from the easterly extent of the existing trestles, running for approximately 350m ESE.*

My comment:

Bear in mind my actual licence location as opposed to where the TA portrays it as in this TAR.

From the TAR (Section 7.1)

-If the existing structures are not being managed then their presence has reduced the available habitat area for some SCI species (especially Grey Plover) and may therefore have a displacement effect on that species (they cannot use the area but there is no data available prior to the trestles being put in place to know whether it was utilised). If the existing structures are being managed currently, then there would, without doubt, be some additional displacement effects during aquaculture management operations due to disturbance.

My Comment:

The structures that are there are managed by the owner of them and the AA for the SPA and SAC have concluded that my operations within site T03/095A can be licenced as there will not be any significant negative impact on the SAC or SPA species. The Marine Institute AA Conclusion Statement does not have any concerns of significant impacts in Grey plover. Only the TA and the appellants have a problem with Grey Plover probably through misinterpreting the 5% threshold and not realising the lengths the MI went to in making the SPA AA for Ballyteigue ultra-conservative and this gives them confidence in their findings. The ALAB Board need to be cognisant of how the TA's opinion is bucking the opinion of many experts who have undertaken significantly more fieldwork than the TA in an ultra-conservative manner to derive their conclusions.

From the TAR (Section 7.1)

- The general principle of allowing an application to proceed when there is scientific uncertainty as to the potential impacts would apply, as it does for any application. In my opinion, there is inadequate information to underpin a decision on this, and that precautionary principle must apply.

My comment:

The ultra-conservative SPA AA has removed uncertainty because there is a wealth of man hour expertise that counters the TA's view and if the positive ecosystem services my farm will provide are prevented there will be a missed opportunity for provision of positive consequences for water quality/ecosystem health which ultimately is a loss for the SAC and the SPA SCI's both of which depend on good water and ecosystem.

From the TAR (Section 7.1)

*-The sites are **suitable** for the proposed development for the following reasons:*

- *The area of the proposed development is in close proximity to existing structures, has little or no additional visual impact and does not impact navigation.*
- *The proposed site location would not have a significant impact on recreational activity including shore angling.*

My Comment:

Having worked on the farm in site T03/038A for many years I am aware that the site has proved itself as one of the best sites for the production of top quality oysters and oysters from here have even won National Oyster Awards. Oyster farming is a very sustainable enterprise with lots of positive impacts on the environment especially at the scale of my site which will be managed mainly on foot for over 90% of the time.

From the TAR (Section 7.1)

*-The sites are **not suitable** for the proposed development for the following reasons:*

- *The competent authority for the Habitats and Birds Directives (DHLGH) are of the view that only existing aquaculture be licenced (presumably the area to which T/03/038A applies). They conclude that there is a lack of certainty with respect to the potential negative displacement effects on Grey Plover.*

My Comment:

The ultra-conservative SPA AA findings of 4.6-4.9% displacement for Grey plover are below the 5% threshold of significance for potential impact however the trends for this species in Ballyteigue are extraordinarily good. Hence the experts at the MI are confident in their AA Conclusion Statement and DAFM were confident enough to licence me.

From the TAR (Section 7.1)

-

-The Appellant, An Taisce, contest that many of the conclusions of the AA are flawed and most significantly that the many uncertainties give arise to it being impossible to conclude beyond all reasonable scientific doubt that the proposed developments will not have a negative impact on the QIs of the site, in particular Grey Plover.

My Comment:

Is the Technical advisor agreeing with the appellant? Did the TA disagree with everything that I submitted on the 28/03/23? If not, why is the TA 'cherry picking' the negative opinions of the appellant? Surely the TA can agree to and reemphasise in this discourse (TA views on site suitability section of the TAR) some of the comments I submitted. It goes back to the theme I touched on at the start. Significant positive relevant information in the Wexford County Development Plan was not included in the TAR, relevant bird reports were not included in the TAR and no reemphasising of the

very important ecosystem services of shellfish. All a bit one sided and in favour of portraying negative Technical Advice.

Section 7.3 Statutory Status of the TAR deals with the TA assessment of impacts on the Wexford County Development Plan 2022-2028 and my comments on how the TA has assessed the impacts inadequately are dealt with earlier in this submission. I strongly reject the TA's piecemeal approach to sourcing relevant parts of the Wexford County Development plan. I also contend as described earlier that I have a significant positive impact in terms of the County Development Plan.

In Section 7.4 Economic effects of the TAR its states:

-Section 61 (d) takes into account the likely effect a proposed aquaculture development (or its amendment / revocation) would have on the economy of the area in which the aquaculture is to be located. It seems likely that the proposed development would have direct and indirect benefits for the local economy.

*Overall, these developments are likely to have a **positive economic impact** given that the activity at the site(s) would be expected to create employment and associated economic benefits. It seems unlikely that there would be any direct negative economic effects (e.g. on other sectors of the local economy).*

My Comment:

There is that word again – 'likely' being used in the context of a positive impact. One can be certain that my oyster farm will have a positive direct (employment on site), indirect (services paid to other companies e.g. transport, mechanics, accountants solicitor etc) and induced economic benefits (my workers spend in the locality). Add in the ecosystem services provided by my oysters such as Nitrogen and Phosphorus removal which has a shadow price along with my economic impact in a Coastal Rural depopulated area with poor unemployment indices, is significantly positive.

In Section 7.5 Ecological Effects of the TAR it states:

*-Section 61 (e) considers the likely effect that the proposed aquaculture operation would have on wild fisheries, natural habitats and the fauna and flora of the area. DHLGH and two Appellants highlighted significant inadequacies in data which gave rise, at least in part, to significant uncertainties and the concomitant conclusions of the SPA Appropriate Assessment. For these parties, this uncertainty was sufficient for them to conclude that they could not rule out significant negative ecological impacts on SCI bird species. Overall, the absence of information to prove beyond all reasonable scientific doubt as to there being no negative impacts led these organisations/individuals to conclude that **the proposed developments would have a significant impact on the ecology of the area. It is the considered opinion of the technical advisor that this is indeed the case.***

My Comments:

The TA is bringing in the opinions of another appellant in my case. He has again cherry picked negative comments made by appellants to repeat in his report whilst ignoring the wealth of information on the beneficial ecosystem services of oyster culture and the findings of the SPA AA, the AA Conclusion Statement and the plethora of MI follow up bird studies in Dungarvan and Bannow Bay. It is my considered opinion that this TA has not done his job thoroughly nor with impartiality.

In Section 7.6 General Environmental Effects the TAR states that:

-Section 61 (f) considers any other effects on the environment in general that could occur in the vicinity of the area where the proposed site is to be located.

There are possibly some positive effects of the proposed activity on water quality (through filtration) through removing excess nutrients from agricultural runoff and wastewater discharges. However, Ballyteigue Bay is classified as 'moderate' water quality status and it is unknown if the scale of the proposed developments would significantly improve that status. Whilst the existing/new trestle structures have the potential to increase food for foraging birds (e.g. green algae accumulation which could be eaten by herbivorous waterfowl including Wigeon and Brent Geese), this is likely a small and limited benefit which is outweighed by the direct (loss of area under trestles) and indirect (loss of buffer area around/beyond trestles impacted by disturbance) negative effects which extend beyond the footprint of the proposed developments.

*Whilst there may be some positive effects of the proposed development it is **considered that these would be relatively minor and insignificant; a likely net significant negative environmental effect (intertidal habitat loss) is more likely.***

My Comment:

The TA finds it very difficult to say with conviction that there are positive effects on the environment. The way he couches his statements concerning positive impacts is astounding and clearly done to downplay them e.g. '**possibly**' some positive effects, '**potential**' to increase food for foraging birds (e.g. green algae accumulation which '**could**' be eaten by herbivorous waterfowl including Wigeon and Brent Geese). This is incredible language given that he has already stated earlier in his TAR that Brent Geese do indeed eat the green algal accumulations on the oyster bags. But in the earlier mention of this the 'energetics' query was used to attempt to downplay such a positive impact. It's clear to me by the use of such language the TA is set against aquaculture full stop and he is certainly not giving the aquaculture licences a fair chance of surviving the appeals. If it is just ignorance of the positive effects of aquaculture, then I suggest the TA read the following:

A global review of the ecosystem services provided by bivalve aquaculture. (Andrew van der Schatte Olivier, Laurence Jones, Lewis Le Vay, Michael Christie, James Wilson, Shelagh K. Malham 2018) available at <https://onlinelibrary.wiley.com/doi/full/10.1111/raq.12301>

And also the book of reviews on 'Goods and Services of Marine Bivalves' Edited by Aad C. Smaal, Joao G. Ferreira, Jon Grant, Jens K. Petersen, Øivind Strand available at <https://library.oapen.org/handle/20.500.12657/22923>

In Section 7.8 Section 61 Assessment Conclusions the TAR States:

-In conclusion, the section 61 assessment finds that the proposed development is deemed unsuitable for the proposed development on the grounds of site suitability, statutory status, ecological and environmental impact as outlined in Sections 7.1, 7.3, 7.5 & 7.6 above.

My Comments:

I strongly reject this conclusion for the reasons given above in response to the relevant sections.

In Section 7.9 Confirmation re Section 50 Notices the TAR states:

-Under Section 50 of the Fisheries (Amendment) Act the Board has the power to consider any issues, other than those raised in the appeals documents, if they are matters to which, under Section 61, the Board may have regard. However, the same section also obliges the Board, if it does not intend to take into account such other issues apart from those raised in the

appeal documents, to give notice in writing to the parties and to persons who made submissions and observations, in accordance with section 50 (2) of the 1997 Act. The Technical Advisor is of the opinion that there are not matters which arise in Section 61 which the board ought to take into account which have not been raised in the appeal documents, and it is not necessary to give notice in writing to any parties in accordance with section 50 (2) of the 1997 Act.

My Comments:

I believe the major factors determining some negative trends in SCI birds is coming to light as indicated in recent MI winterbird surveys in Dungarvan and Bannow (excerpts used in this submission and link provided). I believe that ALAB should avail of this information and should give the MI an opportunity to explain to ALAB the ramifications of these findings viz aquaculture actually may be quite insignificant especially at the miniscule scale of my licence. The MI are impartial in undertaking these studies and would probably provide ALAB with a better understanding of the findings than the TA who has chosen to ignore them and who by the comments made in this TAR is clearly not impartial.

In Section 7.10 Section 46 and Section 47 Notices the TAR states:

-Section 46 of the Act provides for the Board to request that a party to the appeal who has already made submissions/observations to the Board make further submission /observations in relation to a matter which has arisen in the course of the appeal. We are unaware of any additional information which exists and which we could request.

My Comments:

The TA would have known about the MI follow up bird studies. ALAB should give the MI a chance to explain further why they are so confident of licencing my site. Furthermore, if there are any other bird reports pertaining to Ballyteigue Bay then ALAB should consider them.

In Section 8.0 of the TAR deals with the Technical Advisor's Evaluation of the Issues in Respect of Appeal and Submissions/Observations Received in the TAR.

My comments:

In this section of the TAR the TA **only expresses views on the Appeal Issues. The TA does not express views on the submissions that I made in my defence against the appeal issues.** This is completely one sided. The Chapter Heading for Section 8 of the TAR would indicate that the TA has to evaluate the issues in respect of appeal and Submissions/Observations Received. In other words, a balance rounded assessment of the pros and cons.

Technical Advisors view on the Ecological impacts are re paucity of data:

-Available data for this site is poor and I believe robust conclusions cannot be drawn on any aspects of this project as a consequence.

My Comments

As discussed in more detail earlier in my submission the TA hasn't undertaken full research of the facts as evidenced by not seeking the plethora of MI Bird Study Reports relating to Dungarvan and Bannow whilst only considering his own report in Dungarvan. The highly stringent and ultra conservative displacement assessments used in the SPA AA have given the Marine Institute confidence in recommending licencing of both sites (not just my own one).

Technical Advisors view on the Ecological impacts are re legal framework are:

-A key point here is the uncertainty upon which decision-making is based. The evidence-base is poor and the paucity of site-specific data so poor that robust conclusions cannot be drawn. It cannot be established, therefore, beyond all reasonable scientific doubt that the proposed activities will not have an adverse impact on the site. Indeed, the presence of the current (apparently unlicensed) aquaculture structures may already be having an adverse impact on the site and by inference be contributing to the recent population trends at the site.

My Comments:

There is no legal issue with my licence that was approved by DAFM. The ultra-conservative SPA AA along with other reports that the TA hasn't considered give confidence of no negative impact. Once again, the TA fails to even recognise known positive impacts to ecosystem (water quality on particular), biodiversity and additional food for geese. The site is actually doing well compared to national trends and indeed in recent MI Bird Study report as discussed earlier in the reports there are big factors causing issues with birds in general which as stated in the 22/23 MI Winter bird monitoring report for Dungarvan Harbour

- the overall trends for many species are broadly similar to the national trends, or regional trends. In particular, the trends for the six target species do not appear to be obviously different from the national trends, which may indicate a lack of impact from oyster trestle cultivation.

Technical Advisors view on the Ecological impacts are re potential negative impact on grey plover:

-The AA identifies potential displacement effects and some uncertainty surrounding that. The paucity of data indicates that there is sufficient uncertainty that a licence should not be granted

My Comments:

Grey plover have been discussed extensively in my submission above. The ultra-conservative SPA AA had a predicted potential displacement impact of less than 5%, the population trends are fantastic compared to national trends. No negative impacts despite an oyster farm being there the whole time.

Technical Advisors view on the Ecological impacts are re potential negative impact on Brent geese.

-The response of Brent Geese is indeed variable, with geese certainly exploiting green algae but access to this being constrained by disturbing activities. Whilst this species habituates to human activities, it is hard to assess whether the overall impact is positive or negative. It seems likely that responses are site-specific and relate to a combination of human factors (such as number of persons, distribution around the site, whether in vehicles or on foot, their behaviour etc) and site-specific factors (such as location of marine or terrestrial feeding opportunities, other activities that may be occurring on the site, the scale and location of aquaculture sites relative to these).

There is sufficient doubt (cannot be sure of no negative effect) that we should not assume no negative effect.

My Comments.

Here we go again. The TA has adjusted his views on Brent Geese once again. Earlier in section 7.6 of the TAR he said that 'green algae accumulation which **'could'** be eaten by herbivorous waterfowl including Wigeon and Brent Geese'. Now he states that they 'certainly' exploiting green algae. We will not prevent geese from feeding on our green covered oyster bags should we survive this appeal.

They are well habituated to oyster farming. It's very clear to me that the shore that my site is on does not support the growth of green algae. If I ever get to oyster farm at the site I am certain the green covered oyster bags that sit on the trestles will allow for green algal growth and will provide food for the geese. So, without doubt we will be creating an additional resource for geese that would not be there if I have my licence overturned. By getting rid of me (as the TA is recommending) then there will be a negative impact on the geese.

Technical Advisors view on the Ecological impacts are re Waterbird occupancy data.

-Whilst the AA has done its best with the data available, the paucity of data is such that robust conclusions cannot be drawn

My comments:

The AA Conclusion statement addresses this point by saying:

-Any data constraints were adequately dealt with via the adoption of worst-case assumptions in the analysis and prediction of displacement impacts.

The assessment of potential displacement effect of the proposed aquaculture activities in the SPA AA report followed worst-case principles by adopting the following assumptions:

- *100% trestle occupation within both aquaculture sites;*
- *Assuming the maximum, instead of mean, rate of occupancy in the two bird count subsites; and*
- *Increased the categorical 'Assessment of significance' in Table 7.5 from not significant/measurable (4.6% – 4.9%) to significant, on the basis that Grey Plover are known to exhibit negative behavioural responses to trestle cultivation.*

As uncomfortable as I am with the ultra-conservative MI approach I think that it is acceptable to any rational thinking person that there is confidence in licencing my site.

Technical Advisors view on the Ecological impacts are re potential negative impacts on Wigeon.

-Paucity of data in this case and including wider studies of potential impacts means that there is sufficient uncertainty to not rule out negative effects

My Comments:

Note Wigeon are not an SCI species in Ballyteigue but rather Tacumshin Lake. The conservation objectives for the Wigeon SCI of the Tacumshin Lake SPA is to maintain its favourable conservation condition (NPWS, 2018b). Tacumshin Lake is greater than 10km from Ballyteigue Bay at their closest points and closer to 13.6km from my oyster farm location to Tacumshin Lake. The Ballyteigue SPA AA says that Whooper Swan can be screened out because the distance of Ballyteigue Bay from Tacumshin Lake (around 10 km) is a lot greater than its likely core foraging range of 5 km (SNH, 2016). A huge national study of Wigeon in the UK entitled: **Winter distribution and habitat requirements of Wigeon in Britain** published in the Wildfowl Journal <https://wildfowl.wwt.org.uk/index.php/wildfowl/article/view/515>

states that for Wigeon they '*Very seldom do they fly more than 5 miles (8 km) to feed.*'

Maybe KRC could tag a few with GPS and we will see if they are making the trip over to Ballyteigue Bay. Who knows they might even be coming over to feed on top of the oyster bags that exist there already. There's a thought.... Might leave the TA's argument about 'energetics' of feeding on top of bags in shreds.

In the AA Conclusion Statement

-9.2 The predicted displacement impacts to Light-bellied Brent Goose (6.7-7%) and Wigeon (6.7-7%) are significant. However, there is a high level of uncertainty about this prediction due to the variable nature of their responses to oyster trestle cultivation, and the likely significant overestimation of sub-site occupancy levels in the displacement calculations.

Remember above 5% only indicates a potential negative impact. Add in the 'variable' nature of response of Wigeon (**includes positive responses** and feeding on bags), the ultra-cautious worst-case scenario approach of the AA for the SPA and you can be sure that my future oyster farm will not impact negative on this Tacumshin Lake SCI species.

Technical Advisors view on the Ecological impacts are re mitigation measures.

-The mitigation measures indicated are standard (e.g. access routes etc) but the key questions are whether the impact of more trestles on the site will have significant negative impacts on the site - which we do not know the answer to beyond doubt.

My Comments:

I refer back to the SPA ultra conservative approach detailed in the AA conclusion statement along with the fact that it is coming to light in follow up SPA/aquaculture MI Bird studies that it appears aquaculture isn't really a factor. It's the large-scale factors that are causing issues with birds. The SPA AA assumed full occupancy of my site in terms of trestles (they left no ground available for any bird). Of note again Grey Plover doing very well in Ballyteigue Bay. So, it is highly unlikely that there will be negative impacts. Note also when AA's are undertaken certain species can be screened out on the basis that the development is 'highly unlikely to be significant negative impacts'. It is never stated that it is beyond doubt. I think the TA is trying to be even more conservative than the SPA AA.

In Section 10.0 Recommendation of Technical Advisor with Reasons and Considerations the TAR states:

*- It is the recommendation of the Technical Advisor to **overturn the decision of the Minister and refuse the granting of licences** for sites T03/095A for the reasons below:*

*These sites are **not suitable** for the proposed developments for the following reason:*

- Section 61 assessment findings conclude that the proposed development is not suitable for aquaculture on the grounds of site suitability, statutory status, ecological and environmental impacts.

- It is not possible, based on existing information, to conclude beyond reasonable scientific doubt that the proposed developments will not significantly impact the qualifying interests of the SPA, in particular the potential displacement effects on Grey Plover, but also potentially on other species.

This conclusion is based on and inadequacy of data which formed the basis of the AA and not the flawed interpretation of the limited data that exists per se.

My Comments:

My proposed oyster farm as stated before will have a positive impact on the Wexford CoCo Development Plan 22-28. As argued above my oyster farm will not cause any lasting negative impacts on both the SAC and the SPA as determined by the ultra-conservative SPA AA and the plethora of MI commissioned winterbird studies all suggest that aquaculture in Ballyteigue Bay and outside Ballyteigue bay are not significant for negative impacts and that factors operating at a bigger scale are more important.

It is extremely unlikely that issuing a licence to me will increase the chance of any significant negative impacts. There would be greater risk of significant negative impacts by preventing the ecosystem services that my farm will provide.

The MI and their bird and ecological consultants and Departments have put in extensive man hours over years to make their 'considered opinions'. The TA commissioned by ALAB went down to Ballyteigue for 3 days (maximum) outside of the winter bird monitoring period, for how long each day is anybody's guess, did no bird monitoring, put together an incomplete desk top study (cut and paste job), quite clearly reinforcing some of the negative opinions stated by the appellant and not corroborating/reinforcing one positive point stated by the applicant in their submissions. But in his considered opinion all of the above experts are wrong and that the licence should be overturned. In his TAR the TA has clearly shown that he either doesn't understand nor has taken the time to understand shellfish farming in terms of ecosystem benefits or at worst chooses to ignore when writing the TAR.

Upon reading Section 8 of the TAR for AP4/2/2023 I see the following view from the same TA:

-the cumulative effects of aquaculture (nationally) via inter-tidal habitat loss can only be negative for waterbird populations

Clearly, he has revealed his true colours in that he is against shellfish aquaculture in the intertidal zone viz all oyster farms. An Taisce must be jumping for joy not only that the TA is attempting to get rid of me or the other site in Ballyteigue, but this will have very positive consequences for them nationally should he succeed.

Is this what ALAB calls a proper impartial handling of an appeal to my granted licence based on sound science? I would argue that if ALAB accept the recommendation of this TA that it would be the beginning of the end of shellfish farming in this country. If I can't get a licence of 1.6459ha (a tiny fraction of the SAC and SPA) which was put through an ultra-conservative SPA AA, was granted a licence by DAFM and was supported by Wexford County Council and other agencies then there would appear to be little hope of any new application or renewal application being granted.

An Taisce and other like-minded anti-aquaculture appellants buoyed up by such an unbelievable victory would only have to submit and appeal and threaten ALAB of impending legal action again should ALAB grant any of the many appeals that will undoubtedly flood through their doors after such an overturning That's a sad state of affairs.

I would also urge ALAB members not to be swayed by the wording the TA uses in in the TAR which ignores, down plays and introduces uncertainty regarding well know positive impacts of oyster farming for water quality, ecosystems and bird life. As you can see from my efforts here it was worthwhile double-checking things as it led to a realisation that certain valid excerpts from/reports were not included/considered in the TAR.

ALAB should also be mindful of how much this Licence to farm oysters in 1.6459Ha means to me. I started working in Ballyteigue Bay in 1988 at the age of 18 for another oyster farmer. I then went on to work for five of the six oyster farmers operating in Ballyteigue Bay and Bannow Bay. I have acquired a wealth of knowledge and experience in a lifetime of working in the aquaculture industry. For a time, I was manager of Bannow Bay oysters. I am probably the only person in Ireland ever to have won the B.I.M. Guinness all Ireland oyster awards twice in two different bays, Ballyteigue and Bannow and came runners up two years in a row.

If given the chance I know I can produce a world class Speciale oyster from Ballyteigue bays pristine waters. It's something I have been doing all my life and I know exactly what the market is looking for. I could really put Ballyteigue Bay and Irish oysters on a worldwide stage. Ballyteigue oysters are highly sought after by some of the finest restaurants in the world.

Such is the quality of the Ballyteigue Bay oyster that when I received confirmation from the Department of Agriculture, Food and the Marine (DAFM) of the granting for an aquaculture licence and after it was published in the paper I have been inundated with buyers in France wanting to do business with me. It has been very disheartening to have to explain to them that I don't actually have a licence as it is still pending. As no two bays are the same the oysters in Ballyteigue Bay have their own unique characteristics, shape, colour, texture and flavour, with no fouling of the shell. My son is very enthusiastic about joining me in the aquaculture business. At 24 years of age he has completed his master's degree "Innovative Technology Engineering" and is currently working in TEVA Pharmaceuticals in Co. Waterford as a research and development engineer designing medical devices. He has also taken up a position as a part time lecturer at the South East Technological University (SETU) subject "Process Quality and Software Control" and was recently offered a PhD scholarship at the university of Melbourne Australia.

If granted an aquaculture licence my son would be a real asset to the business bringing fresh new thinking and ideas. With his help I really think we could bring Ballyteigue bay oysters to the next level, there is no limit to what we could achieve if given the chance. With my experience and my son by my side the sky is the limit. I truly believe we can achieve something great. My wife and I cried tears of happiness on the 3th of January 2023 when we received an e-mail confirming that the Dept. of Agriculture, Food and Marine had granted us an aquaculture licence only for it to be cruelly taken away from us a month later by An Taisce. Please don't let An Taisce break our hearts and shatter our dreams a second time. I have given 35 years of my life to aquaculture please don't let it be all for nothing. I ask ALAB to stand strong against An Taisce. Don't let these people bully you surely to god aquaculture and wildlife can co-exist in Ballyteigue Bay. After all they have been doing so for over 40 years.

I don't have a PHD or letters after my name but what I do have is a deep love and infinity for wildlife and biodiversity instilled in me at a very young age by my late father. So much so that 20 years ago I purchased five and a half acres of wetlands solely for the purpose of preserving wildlife. In the spring and summer I've counted at least twelve species of butterflies, including Blue and Orange tips, several species of moths and Tiger moth larvae and at least six species of bumble bee feeding on Crow's foot trefoil. I have wild Irish Hares nestling in their forms in tufts of grass. Also, there are four species of raptor, Raven, Sparrow hawk, Buzzard and a Kestrel that nested in a castle beside my land. The Wexford Barn owl Project visited last summer and are very eager to install owl boxes in the area. As the land isn't been intensely farmed and therefore is perfect habitat for the Barn owl chicks to thrive. They also want to ring the Kestrel chicks if the hen nests again next year as they are a red listed species, just like the Barn owls.

There are numerous species of wild flowers growing in the fields. I even had wild orchids growing there for the first time last year. There are Swallows, Housemartins and a few Swifts dive-bombing on the abundance of insects. In the summer the noise of the grasshoppers is deafening.

There is a stream running through the wetlands, it's full of Water beetles, Water boatmen, fresh water Shrimp, fresh water snails, frogs, frogspawn even a water Rail and a resident Grey Herring that terrorises the frogs. I don't flail mow the hedgerows as I believe it destroys a valuable food source (berries, fruits, nuts etc.) and is a vital corridor for birds and insects.

I am stating this just to illustrate that I'm an environmentalist, but I really do disagree with the views set out by An Taisce and the TA. If I thought for one minute my application for a aquaculture licence would be to the detriment of the wildlife In Ballyteigue Bay, then not in a million years would I even consider applying for a licence. On the contrary if ALAB sees fit too grand me the licence I will do everything in my power to nurture, preserve and protect the flora and fauna in the bay, including water quality.

I have known and worked for Mr Noel Roche (Ballyteigue Oysters Ltd) for over thirty five years. He is a man of immense integrity and meticulously tidy. I have witnessed on many occasions employees severely reprimanded for dropping even as much as a sweet wrapper on the shore.

Before aquaculture commenced in the bay it was a free for all dumping ground. Cars were rallied around the sand dunes and shore line, then dumped in piles and burned out. Rubbish including dead animals, household refuse, children's nappies, beer bottles, cans and garden waste littered the shore line from the road to the furthest point in the bay.

Mr. Roche first set about instigating the removal of the scrap cars with the help and co-operation of Wexford County council. He then turned his attention to the removal of all the rubbish on the high watermark, including the removal of all the garden waste. He notified Wexford county council of the illegal dumping of livestock carcasses. Mr. Roche also put in a request too Wexford county council for permission to erect "NO DUMPING "signs at the entrance to the bay. Wexford county council duly obliged and Noel erected the signs in his own time and at his own expense.

Mr. Roche organises a thorough clean up along the whole shoreline twice a year. Tractors, tonne bags and labour again all at his own expense. Mr. Roche is the first line of defence, boots on the ground, eyes and ears for Wexford county council. This man has done more to enhance and protect bio-diversity in Ballyteigue Bay than all of these people objecting to aquaculture, most of whom have never even set foot in the bay.

I know for a fact one hundred percent hand on heart if aquaculture fails to exist in Ballyteigue Bay in the future it will really set a precedent and give An Taisce even more drive and motivation to continue to eradicate the aquaculture industry from the island of Ireland forever.

Ballyteigue Bay will revert back to type pre-aquaculture and will be like the Wild West again a free for all dumping ground. What will suffer the most in all of this is the one thing that An Taisce perceives to be protecting..... wildlife.

By licencing my site Ballyteigue will have two dedicated guardians of the environment and wildlife on the ground.

I sincerely hope that ALAB make the right decision for me, my family and Ballyteigue Bay because a negative decision in this case will have major ramifications for the Irish Oyster Industry.

Yours Sincerely,