Prescribed Bodies Observations for FS006983

Submission 1

[redacted]

No further comment at this time.

[redacted]

Submission 2

Dear [redacted]

In relation to the request for observations on the AA process for the SSE Renewables Celtic Seas site investigations off the Wexford and Waterford coasts, the observations of the Marine Institute (dated 26/6/2019) still stand. I would add one additional comment: given the importance of this area as spawning grounds for herring, we would reiterate the need to tailor survey programmes to clearly identify the sensitive times of the year for this species in the area. This species not only has commercial value but is also likely to be an important food resource for mammals (whales) and seabird species such as Gannet and other diving species, which are qualifying interests in adjacent SPAs.

In addition to these observations, the Marine Institute advises, during assessment of likely effects, that the licencing body consider the in-combination effects on species (marine mammals and birds, in particular) that the proposed surveying activities may have with other similar activities likely to occur in the vicinity. Furthermore, we would consider that wider effects on habitats and species (outside of licenced area) also be assessed. In particular, it is our view that such ORE data gathering surveys be carried out in a co-ordinated fashion in order to avoid redundancy of effort and minimise disturbance while also broadening the baseline of information on habitats and species. In addition, having these baseline data will facilitate future assessment of impacts of OREs beyond the footprint of the licence/lease area.

In relation to cumulative effects with other activities, we note there are Aquaculture licenced areas adjacent to proposed survey areas . These are located in Bannow Bay, Waterford Harbour, Ballyteigue Bay and Dungarvan Harbour and their exact locations and details of species cultured can be found at the following link: https://dafm-maps.marine.ie/aquaculture-viewer/

In addition, DAFM have overseen the production of Natura appropriate assessment reports which consider interactions between Natura qualifying interests and aquaculture operations (existing and proposed) that have been carried out nationally and more specifically, in Bannow Bay and Dungarvan Harbour. These reports can be found at the following link and give an indication of likely aquaculture activities occurring it the general area and a conclusion on their likely impact on N2000 sites.

Aquaculture AA reports pre-2020

Furthermore, we draw the Department's attention to fishery risk assessments relating to Natura Qualifying interests that have been carried out nationally and more specifically, on the south and west coasts. These reports can be found at the following link and give an indication of likely fisheries activities occurring it the area in question. It appears the contractors have access to these data.

http://www.fishingnet.ie/sea-fisheriesinnaturaareas/concludedassessments/southandwestcoasts/

Please do not hesitate to contact me if you have any queries.

All the best,

[redacted]

Submission 3

Hi [redacted]

One point to make is that the appropriate assessment screening report does not include the Barrow SAC despite the presence of the investigative works happening just outside this catchment. The applicants own NIS does include the Barrow SAC. To ensure standardisation with other applications we have reviewed, I believe this SAC should have been screened in for Habitat Directive migratory fish species as these species will travel through and could spend time within this area. We believe the mitigation measures we have proposed in our initial submission will reduce the impact on the SAC species of interest namely shad, sea lamprey and salmon.

Kind regards

[redacted]

Submission 4

Dear [redacted]

BIM has one comment/observation to make in regard to the Appropriate Assessment for site investigation works for SSE Renewables Celtic Sea off Bunmahon Bay Co. Waterford and Bannow Bay Co Wexford.

As there are aquaculture activities subjected to Appropriate Assessment (Bannow Bay and Ballyteigue Bay- see attached) where the mouths of these bays are immediately adjacent to where the eastern arm of the foreshore site reaches land an appropriate assessment would need to take account of "in combination effects" that the proposed site investigations works would have on Natura 2000 sites covered in the area of this application.

Kind regards,

[redacted]

Submission 5

A chara

Please find below the heritage recommendations of the Department for the above mentioned application.

Underwater Archaeology

Previous 2019 UAU obs remain in place. No further UAU obs at this time.

Nature Conservation (Marine Science and Biodiversity)

The proposed site survey to support the development of the Celtic Sea Array has been evaluated by a Natura Impact Statement and other documents.

The conclusion of the Natura Impact Statement document is that the proposed works are unlikely to pose a significant likely risk to nature conservation interests in the vicinity with the application of appropriate mitigation. National Parks and Wildlife Service concur with this conclusion in relation to marine Annex I habitats provided the stated mitigation is undertaken.

The proponents should be aware that some of the proposed activities may result in disturbance to Annex IV marine species listed under Council Directive 92/43/EC. In order to consider the potential implications of this disturbance it is advised that they should apply for a derogation under Regulation 54 of European Communities (Birds and Natural Habitats) Regulations SI477/2011. They can do so by applying to wildlifelicence@npws.gov.ie. The applicant should include details of the proposed activity, necessary supporting information to evaluate the potential ecological implications, and spatial reference information including ESRI shapefiles for the target area in WGS84 projection. The proponents should reference to "Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters" available to download here https://www.npws.ie/sites/default/files/general/Underwater%20sound%20guidance_Jan%202014.pdf

Regards
[redacted]

Submission 6

Good day [redacted]

After careful consideration the Marine Survey Office has no objection to the above referenced application from a navigational safety perspective.

Original response dated 19/06/2019 attached for your reference.

It is noted that the Site Investigation Works are located in an area of busy coastal shipping lanes which include the approaches to the Port of Waterford as well as active fishing and recreational waters. After careful consideration the Marine Survey Office has no objection to the above referenced application from a navigational safety perspective however the MSO do reserve the right to raise concerns or may not support of future planning applications relating to this project on the basis of safety of navigation.

However the following points shall be of note;

1. The Licensee shall, through consultation and agreement with the Department of Transport, Marine Survey Office and Commissioners of Irish Lights, arrange for the publication of a Marine Notice through the Maritime Safety Policy Division.
2. The promulgation and frequency of Navtex and radio broadcast warnings shall be agreed in advance with the Irish Coast Guard for the duration of the license period.
3. The marking and lighting of any moored instruments shall be carried out in consultation with the Marine Survey Office and Commissioners of Irish Lights. Lighting and marking shall be compliant with International Association of Aids to Navigation (IALA) requirements. Information regarding the position of any markings which create a hazard to navigation shall be promulgated to the mariner via publication of a marine notice and all available means appropriate.
4. The Licensee shall ensure all appropriate measures are taken for the duration of any on-site activity to ensure the safety of navigation is maintained. Any hazard to safe navigation shall be easily identifiable to all mariners operating within or in the vicinity of the license area.
5. Engagement with the Port of Waterford on planned operations considering the proximity of the site investigation area to the approaches to the port.
6. All vessels engaged in the above must conform to Irish Certification standards and the vessels be manned by suitably qualified personnel, additionally where equipment is carried an Irish Load line survey may be required. The applicant should contact the Marine Survey Office Dublin for clarification in relation to the above matters.
7. On completion of operations the applicant shall be obliged to inform the United Kingdom Hydrographic Office (UKHO) providing bathymetry data so that appropriate charts can be updated. (Fax: 0044 1823 284077, email: hdc@hdc.hydro.gov.uk)

Regards,
[redacted]

Submission 7

[redacted]
Foreshore Unit,
Department of the Housing, Local Government and Heritage,
Newtown Road,
Co. Wexford
20th of December, 2022

Prescribed Bodies Consultation - Environmental Report

Re: FS006983 - Site Investigations off Bunmahon Bay, Co. Waterford and Bannow Bay, Co. Wexford.

Applicant: SSE Renewables Ltd.

Dear [redacted]
Your email of the 29th of November 2022 refers to this licence application to carry out Site Investigations off Bunmahon Bay, Co. Waterford and Bannow Bay, Co. Wexford.

This coastline hosts a variety of marine and coastal Annex I habitats. The rivers within this area support a variety of Annex II migratory fish species. Its coastline provides habitat to a range of breeding sea birds including populations of Cormorant, Herring Gull and Kittiwake. Its estuaries and mudflats and sandflats provides good quality feeding areas for an excellent diversity of waterfowl species.

Assessment Process
The Minister for Housing, Local Government and Heritage, is responsible for carrying out environmental screening and any environmental assessments determined as being required following screening, in accordance with the requirements set out in Directive 92/43/EEC (**Habitats Directive**) and Directive 2009/147/EC (**Birds Directive**), in respect of applications under the The Foreshore Act 1933, as amended.

Habitats Directive
The Appropriate Assessment process (AA) is an assessment of the potential for adverse or negative effects of a plan or project, in combination with other plans or projects, on the conservation objectives of a European Site (Natura 2000 site). The focus of AA is targeted specifically on Natura 2000 sites and their conservation objectives.
Article 6(3) and 6(4) of the **Habitats Directive** place strict legal obligations on Member States to regulate the conditions under which development that has the potential to impact on European Sites can be proceed. It requires that an Appropriate Assessment be carried out of plans or projects, not directly connected with or necessary to the management of a site as a European Site, but which are likely to have a significant effect thereon, either individually or in combination with other plans or projects. An AA Screening assessment is carried out to determine whether a plan or project is likely to have a significant effect on a European Site.

Submission 8

Appropriate Assessment Conclusion Statement by Licensing Authority for aquaculture activities in the Ballyteigue Burrow Special Area of Conservation (SAC) (Natura 2000 Site Code 000696) and the Ballyteigue Burrow Special Protection Area (SPA) (Natura 2000 Site Code 004020).

1. Appropriate Assessment Process

1.1 This Conclusion Statement outlines how it is proposed to licence and manage aquaculture activities in the above Natura 2000 sites in compliance with the EU Habitats and Birds Directives.

1.2 Aquaculture in these Natura sites will, if approved, be licensed in accordance with the standard terms and conditions as set out in the aquaculture licence templates.[1] Should any licences be issued, they will also incorporate specific conditions so as to accommodate Natura 2000 requirements, as appropriate.

1.3 The SAC and SPA reports were prepared by AQUAFACT International Services Ltd. and Atkins Ecology respectively, for the Marine Institute on behalf of the Department of Agriculture, Food and the Marine. These Appropriate Assessment Reports assessed the potential ecological impacts of aquaculture activities on Natura features in both the SAC and the SPA.

1.4 The information upon which the Appropriate Assessment is based is the definitive list of applications for aquaculture available at the time of assessment. This information was provided by the Department of Agriculture, Food and the Marine.

2. Description of aquaculture activities

2.1 Aquaculture activity within Ballyteigue Burrow SAC focuses on the cultivation of the Pacific oyster (*Crassostrea gigas*) on trestles in intertidal areas of the Bay. There are two applications for the intertidal cultivation of Pacific Oysters (*Crassostrea gigas*) on sites in the bay. The proposed area covered by the site applications is 3.3 ha. The two aquaculture sites are located in the middle of Ballyteigue Bay on the northern side of the main tidal channel.

3. The Special Area of Conservation

3.1 The Ballyteigue Burrow Special Area of Conservation (SAC) is located on the south coast of Co. Wexford. The SAC site extends eastwards and northwards from the village of Kilmore Quay. The site consists of a long, narrow spit of coarse sand and gravel with a sand dune system, the Ballyteigue Burrow, which forms most of the seaward boundary.

3.2 The SAC is designated for the following habitats, as listed in Annex I of the EU Habitats Directive (Natura 2000 codes are in brackets):

1. [1130] - Estuaries

2. [1140] - Mudflats and sandflats not covered by seawater at low tide

3. [1150] - Coastal lagoons (*priority habitat under the Habitats Directive)

4. [1210] - Annual vegetation of drift lines

5. [1220] - Perennial vegetation of stony banks

6. [1310] - *Salicornia* and other annuals colonising mud and sand

7. [1330] - Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

8. [1410] - Mediterranean salt meadows (*Juncetalia maritimi*)

9. [1420] - Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*)

10. [2110] - Embryonic shifting dunes

11. [2120] - Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes)

12. [2130] - Fixed coastal dunes with herbaceous vegetation (grey dunes) (*priority habitat under the Habitats Directive)

13. [2150] - Atlantic decalcified fixed dunes (*Calluno-Ulicetea*) (*priority habitat under the Habitats Directive)

3.3 The constituent community types recorded within the qualifying interest Annex 1 marine habitats consist of:

(a) Mixed sediment to sand with nematodes and *Tubificoides benedii* community: Located in both Estuaries (1130) and Mudflats and sandflats not covered by seawater at low tide (1140)

(b) Sand with crustaceans and *Nephtys hombergli* community complex: Located in Estuaries (1130)

3.4 For the practical purpose of management of sedimentary habitats, a 15% threshold of overlap between any disturbing activities and a habitat is given in the NPWS guidance2. Below this threshold disturbance is deemed to be non-significant.

4. Appropriate Assessment Screening of Ballyteigue Burrow Special Area of Conservation

4.1 A screening assessment is an initial evaluation of the possible impacts that activities may have on the Qualifying Interests.

4.2 An initial screening exercise resulted in a number of habitat features being excluded from further consideration. It was found that aquaculture activities have the potential to interact with the following Qualifying Interests:

- • [1130] Estuaries
- • [1140] Mudflats and sandflats not covered by seawater at low tide

Therefore, these Qualifying Interests were carried forward for a full assessment of the interactions.

5. 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).

6. Screening of Adjacent Special Areas of Conservation

6.1 There are six SAC sites proximate the Ballyteigue Burrow SAC; Bannow Bay SAC, Hook Head SAC, Lower River Suir SAC, River Barrow and River Nore SAC, Saltee Islands SAC and Tacumshin Lake SAC. As it was deemed that there are no ex-situ effects and no likely effects on features in adjacent SACs all Qualifying Interests of the adjacent SAC sites were screened out.

7. Ballyteigue Burrow Special Protection Area

7.1 The report assesses the potential impact of the development of the two aquaculture sites on the Special Conservation Interests (SCIs) of the Ballyteigue Burrow SPA, and on the SCIs of other SPAs where these SCIs may have connectivity with Ballyteigue Bay. The potential for cumulative impacts from development of these aquaculture sites in combination with other relevant activities and plans is also assessed.

7.2 The Qualifying Interests of the Ballyteigue Burrow SPA are: Light-bellied Brent Goose, Shelduck, Golden Plover, Grey Plover, Lapwing, Black-tailed Godwit and Bar-tailed Godwit.

7.3 The conservation objectives for the Light-bellied Brent Goose, Shelduck, Golden Plover, Grey Plover, Lapwing, Black-tailed Godwit and Bar-tailed Godwit SCIs of the Ballyteigue Burrow SPA are to maintain their favourable conservation condition.

7.4 In addition to the Ballyteigue Burrow SPA, the Bannow Bay, Keeragh Islands, Saltee Islands and Tacumshin Lake SPAs are also within 15km of the aquaculture sites in Ballyteigue Bay. There is also potential connectivity with the Lady's Island Lake, the Raven and the Wexford Harbour SPAs.

8. Appropriate Assessment Screening of Ballyteigue Burrow Special Protection Area and adjacent Special Protection Areas

8.1 A screening exercise was carried out to screen out Qualifying Interest species that did not show any potential spatial overlap with effects from any of the proposed aquaculture activities being assessed. This was undertaken across all SPAs being assessed.

8.2 All of the Qualifying Interests for Ballyteigue Burrow SPA were carried forward for full Appropriate Assessment. The conservation objectives for the Cormorant breeding population in the Keeragh Islands SPA are to maintain or restore its favourable conservation condition. The conservation objective for the Lesser Black-backed Gull breeding population in the Saltee Islands SPA is to maintain its favourable conservation condition. The Cormorant SCI of the Keeragh Islands SPA, and the Lesser Black-backed Gull and Herring Gull SCIs of the Saltee Islands SPA, were found as likely to have significant spatial overlap with the aquaculture sites in Ballyteigue Bay. However, Herring Gull has a neutral/positive response to oyster trestle cultivation and was therefore screened out from further assessment.

9. Findings of the Appropriate Assessment Report in Ballyteigue Burrow Special Protection Area

9.1 There is likely to be a measurable displacement impact to Grey Plover, and this may be significant when potential displacement due to disturbance is considered. It should, however, be noted that the population trend data for Grey Plover does not show any evidence of impacts from increasing levels of oyster trestle culture over the period 2008-2016. On this basis, it is likely the displacement impact will be substantially lower than the calculated impacts for the two sites assessed (4.6-4.9%).

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.

9.3 The predicted displacement impacts to Shelduck, Lapwing, Curlew, Black-tailed Godwit, Bar-tailed Godwit, Dunlin and Redshank are not significant. The predicted displacement impact to Golden Plover is negligible. The limited data available for assessment means that there is a moderate level of uncertainty about these predictions. However, the Report has not identified any specific factors that would suggest a significant underestimation of displacement impacts for any of these species. For Curlew and Redshank there may be no net displacement impact due to the variable nature of their responses to oyster trestle cultivation.

9.4 Oyster trestle cultivation is likely to have a neutral or positive impact on prey resources for Cormorants, and they will only utilise the areas around the aquaculture sites at high tide when no husbandry activity will be taking place. Therefore, no negative impacts are predicted for this species.

9.5 Due to lack of information on the diet of the Saltee Islands Lesser Black-backed Gull colony, the occurrence of Lesser Black-backed Gull in Ballyteigue Bay during the summer, and/or the response of Lesser Black-backed Gull to oyster trestles, it was not possible to make an

assessment of the potential impact of aquaculture activities in Ballyteigue Bay on the colony. A follow up investigation on the Lesser Black-backed Gull's use of intertidal habits within Ballyteigue Bay during important breeding season was conducted (during 2020). During the course of the survey a single Lesser Black-backed Gull was observed foraging intertidally in Ballyteigue Bay. On this basis, it can be concluded that the intertidal habitat in Ballyteigue Bay is unlikely to be a significant foraging resource for Lesser Black-backed Gulls from the Saltee Islands colony. No negative impacts are predicted for this species.

10. In-combination effects of aquaculture and other activities

10.1 The Appropriate Assessment reports considered the cumulative impacts of the combined effects of the aquaculture and other activities within the SAC/SPA.

10.2 There are no know applications for a fishery or proposed fishery plans for the Ballyteigue Burrow SAC. On this basis, there are not likely to be any in-combination impacts between fishery and aquaculture activities.

10.3 As pressures resulting from point discharge locations would not significantly impact chemical parameters in the water column, any in-combination effects with aquaculture activities are considered to be minimal or negligible in the SAC.

10.4 Recreational activities are likely to occur on the seaward side of the SPA and are, therefore, unlikely to impact on the shoreline of Ballyteigue Bay where the majority of shorebirds are to be found.

10.5 Shellfish gathering and bait digging will also involve activity in the intertidal zone. However, the levels of these activities appear to be low and they are unlikely to cause significant disturbance impacts.

10.6 The available information indicates that non-aquaculture related disturbance generating activities in the SPA are unlikely to be causing significant impacts to the species covered in the assessment. Therefore, it is not necessary to consider potential in-combination effects with oyster trestle cultivation.

11. Natura Issues raised during the public/statutory consultation process regarding aquaculture licence applications within the SAC/SPA

11.1 The following are a range of the Natura related issues raised during the Public/Statutory Consultation Phases.

A. AA Conclusion Statement in Relation to Grey Plover - There is a high risk of negatively impacting the distribution attribute of the Conservation Objective for Grey Plover at Ballyteige Burrow SPA

Response:
The Department is confident that the species sensitivity and the full extent of proposed trestles sites was considered in the assessment in the SPA AA report and that Grey Plover will not be

displaced to the extent that it's conservation objectives in the Ballyteigue Burrow SPA could not be met.

B. Environmental Issues at Ballyteigue Burrow - At Ballyteige Burrows, the water quality of the channels leading into the estuary are in a 'bad' status according to the EPA's Water Framework Directive 2013 – 2018

Response:
Bivalve shellfish such as *C. gigas* are known to provide positive ecosystem services in waterbodies enriched by terrestrial nutrient run-off, by reducing phytoplankton levels via filtration during feeding. Increasing the number of filter feeders in Ballyteigue Bay is likely to have a small but positive effect on water quality especially given the WFD status of the channels leading into the estuary at Ballyteigue Burrow.

C. The Appropriate Assessment – The appropriate assessment (AA) for the SAC does not adequately assess the risk posed by the aquaculture activity, neither individually nor in combination with the existing activities (e.g. land-based)." The submission takes issue with the SAC AA report findings in relation to water quality effects and invasive species.

Response:
Water Quality
The AA concluded that the proposed oyster trestle cultivation does not have the potential to alter the flow regime in the Burrow to this extent given the findings in the body of literature on potential enrichment under trestles in similar sandy habitats in Ireland and the small scale of the proposed activities. For these reasons organic enrichment of sediments in the Burrow due to oyster trestle cultivation is not considered likely or to pose a risk to benthic habitats.
Given the high rate of flushing within the Burrows and the small scale of the proposed aquaculture activities this is extremely unlikely to occur and therefore extremely unlikely to exacerbate existing water quality issues.

Invasive Species
The Ballyteigue Burrow empties on most tides with just a channel of freshwater remaining during the majority of low tides. This renders this site as likely unsuitable for the successful settlement and establishment of *C. gigas* larvae.

The risk of introduction of other non-native species is highly unlikely as the application documents indicate that *C. gigas* seed will be sourced either from hatcheries or other sites within Ireland thereby minimising the risk of non-natives being introduced to the site.

D. 15% Threshold

Response:

The 15% threshold is clearly defined in NPWS guidance document. The Department is satisfied that sufficient scientific rigour attaches to the likely impacts of the activities and the sensitivity of receiving environment. These facts allied with the guidance provided allow for definitive findings. The SAC AA report should be considered in conjunction with the AA conclusion statement which is the vehicle wherein the conclusions of the AA report are married with management (including mitigation) actions.

E. Ballyteigue Burrow is a protected natura area and non-compatibility with aquaculture due to current biodiversity crisis.

Response:
An Appropriate Assessment of the SPA and SAC was undertaken.

F. SAC AA -Potential for oyster trestle cultivation to have environmental effects on the surrounding environment and finding that impacts relating to physio-chemical effects are not likely to be significant

Response:

In the absence of specific information on total trestle cultivation coverage within a licence area, worst case assumptions are followed, and it is assumed that the entire licence area will be occupied by operational trestles. This approach is applied widely and deals adequately with any gaps in the specifics of an oyster trestle cultivation proposal.

The report assesses the likelihood of the effects occurring based on multiple factors such as site suitability, sensitivity of habitats, and the scale of the proposed aquaculture sites relative to the community complexes they overlap with.

The submission disputes the literature used to underpin the findings of the SAC AA report. The primary literature underpinning the conclusions in relation to benthic habitats is underpinned by the findings of field based studies which assessed the environmental interactions of oyster trestle cultivation activities on intertidal sediment habitats at multiple sites around Ireland.

G. SPA AA - Constraints on analyses

Response:
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.

H. Findings in relation to Grey Plover, Light-bellied Brent Goose, Lesser Black-backed Gull and Fish.

Response:
Grey Plover
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.
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.

Light-bellied Brent Goose
In the case of Light-bellied Brent Geese the worst-case scenario impact was predicted to be significant:
- This is highly likely to be an over-estimation of impact;

- That the population trend for this species in Ireland in the long-term has been strongly positive (96% increase); and

- The population has increased by 35% at Ballyteigue Burrow SPA in the last decade.

Light-bellied Brent Geese using the areas are well habituated to aquaculture activity and generally undisturbed by it.

Light-bellied Brent Goose will forage and roost amongst and on top of the oyster cultivation structures (trestles and bags) on almost all tides.

Lesser Black-backed Gull
In the case of Lesser Black-backed Gulls, field survey work was undertaken over three survey visits to cover the three main phases of the Lesser Black-backed Gull breeding season: 5th June 2020 (incubation period), 6th July 2020 (chick provisioning period), and 20th July 2020 (fledging period). The only record of a Lesser Black-backed Gull possibly foraging in tidal habitats in Ballyteigue Bay was of a single bird in subtidal water in the uppermost section of the bay. Therefore, it can be concluded that intertidal habitat in Ballyteigue Bay is unlikely to be a significant foraging resource for Lesser Black-backed Gulls from the Saltee Islands SPA (004002) colony.

Fish
In the case of fish, no conclusions were made in relation to fish as no fish are designated as conservation features in the Ballyteigue SAC.

I. Uncertainty for SPAs - Grey Plover, Light-bellied Brent Geese, other species.
The submission comments that it is clear from the SPA report that this aquaculture activity could adversely impact on a number of SCIs of nearby SPAs. There is likely to be a measurable displacement impact to Grey Plover, and this may be significant when potential displacement due to disturbance is factored. Light-bellied Brent Geese and Wigeon are similarly at risk. Impacts to other species are discounted.

Response:

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, which is highly unlikely to occur in reality.

For Grey Plover, the worst-case scenario impact was predicted as measurable. Other relevant considerations in addition to this are 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%). These lines of evidence provide a good indication that this SCI will not be significantly affected by the proposed aquaculture activities.

In the case of Light-bellied Brent Geese the worst-case scenario impact was predicted to be significant, but it is essential to note that:

- This is highly likely to be an over-estimation of impact;
- That the population trend for this species in Ireland in the long-term has been strongly positive (96% increase); and
- the population has increased by 35% at Ballyteigue Burrow SPA in the last decade.

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.

Bird species have been shown by some studies to develop a level of tolerance, to become accustomed to aquaculture activities and even to develop positive foraging behaviours among trestles (in the case of Light-bellied Brent Geese).

In relation to Golden Plover, Lapwing, Black-tailed Godwit and Bar-tailed Godwit the statement in paragraph 10.6 of the SPA AA report is incorrect. The analyses found displacement impacts to potentially be negligible for the Golden Plover and not significant for Lapwing, Black-tailed Godwit and Bar-tailed Godwit. This error has been acknowledged and corrected.

12. Summary of Mitigation Measures and Management Actions that are being implemented as a consequence of the findings

Taking account of the recommendations of the Appropriate Assessment, as well as additional scientific/technical observations, the following measures are being taken in relation to licensing in SAC/SPA:

- A licence condition will require full implementation of the measures set out in the draft Marine Aquaculture Code of Practice prepared by Invasive Species Ireland (e.g. http://invasivespeciesireland.come/cops/aquaculture).

- The movement of stock in and out of the SAC/SPA should adhere to relevant fish health legislation.

- A licence condition requiring strict adherence to the identified access routes over intertidal habitat will apply to any licences issued in order to minimise habitat disturbance.

- A licence condition will require that all operators shall adhere to any recommendations that may arise in order to avoid adverse impacts on the integrity of the SAC/SPA.

- The source of seed and any changes to the source of seed are to be approved by the Department of Agriculture, Food and the Marine in advance.

- The Aquaculture and Foreshore Licences contain terms and conditions which reflect the environmental protection required under EU and National law.

13. Conclusion

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.

1 Aquaculture Licensing Templates,https://www.gov.ie/en/publication/fcd20-aquaculture-foreshore-management/#aquaculture-licensing

2 NPWS (2014b) Conservation objectives supporting document - Marine Habitats Ballyteige Burrow SAC 000696. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

November 2022

Submission 9

Appropriate Assessment Conclusion Statement by Licensing Authority in support of the Appropriate Assessment of Aquaculture in Bannow Bay Special Area of Conservation (SAC) (site code 000697), Bannow Bay Special Protection Area (SPA) (site code 004033), including consideration of Ballyteigue Burrows SPA (site code 004020), Keeragh Islands SPA (site code 004118) and Saltee Islands SPA (site code 004002 (Natura 2000 sites)

This Conclusion Statement outlines how it is proposed to licence and manage aquaculture activities in Bannow Bay SAC/SPA in compliance with the EU Birds and Habitats Directives. Aquaculture in these Natura Sites will be licensed in accordance with the standard terms and conditions as set out in the aquaculture licence templates. These are available for inspection on

the Department's website at
http://www.agriculture.gov.ie/seafood/aquacultureforeshoremanagement/aquaculturelicensing/.

Furthermore, the licences will also incorporate specific conditions so as to accommodate Natura requirements, as appropriate, in accordance with the principles set out in this document.

The Appropriate Assessment reports for aquaculture in Bannow Bay SAC/SPA have been prepared by Atkins Ecology/Marine Institute in relation to the Bird species, and the Marine Institute in relation to the marine habitats, on behalf of the Department of Agriculture, Food and the Marine (available on the Department's website). The Appropriate Assessment (Article 6 (3)) report for aquaculture assessed the potential ecological impacts of aquaculture activities on Natura features in and adjacent to the Natura sites in Bannow Bay. Three adjacent SPAs (Ballyteige Burrows SPA (004020), Keeragh Islands SPA (004118) and Saltee Islands SPA (004002)) were also considered because of their close proximity to Bannow Bay and the potential usage of aquaculture areas by birds from these SPAs. The information upon which the Appropriate Assessment is based is the definitive list of applications and extant licences for aquaculture available at the time of assessment. This information was provided by the Department of Agriculture, Food and the Marine.

Following submission of the AA Reports, two bird monitoring reports were provided to the Department by aquaculture operators in the bay. These reports represented waterbird surveys carried out during the winters of 2014/15 and 2015/16. The Marine Institute were requested by the Department to review the reports and update (if appropriate) the displacement analysis provided in the Natura Assessment Reports and subsequently review the conclusions of the AA Reports in the light of this new data. The Marine Institute commissioned Atkins Ecology to carry out this exercise and their report – Updated Assessment of Potential Displacement Impacts - was produced in July 2017 (available on the Department's website).

Description of Aquaculture Activities

There has been aquaculture activity at Bannow Bay since the late 1980s. Existing and proposed aquaculture activity in Bannow Bay involves suspended oyster cultivation using bags and trestles in the intertidal zone. One of the application sites also includes an application for mussel cultivation (using identical methods to that used for intertidal cultivation). Current aquaculture activity is concentrated in the middle of the bay. The bag and trestle method uses steel table-like structures which rise from the shore to just above knee height on the middle to lower intertidal zone, arrayed in double rows with wide gaps between the paired rows to allow for access. Both diploid and triploid oysters are grown in the bay. The oyster seed is bought in from oyster nurseries in France or the UK.

THE SAC AND SPAs

The function of the Appropriate Assessment is to determine if the ongoing and proposed aquaculture activities are consistent with the Conservation Objectives for the sites; and in the case of SPAs also those neighbouring sites where there is the potential usage of aquaculture areas by birds for which these SPAs have been designated. The National Parks and Wildlife Service (NPWS) provide guidance on interpretation of the Conservation Objectives which are, in effect, management targets for habitats and species in the sites. The assessment of activities was informed by this guidance, which is scaled relative to the anticipated sensitivity of the habitats and species to disturbance by the proposed activities.

Bannow Bay SAC (Site code: 000697)

Bannow Bay SAC is a large estuarine Site, approximately 14Km long, on the south coast of County Wexford. The Bay is designated as a Special Area of Conservation (SAC) under the Habitats Directive. Designated marine habitats include Estuaries (1130) and Mudflats and sand flats not covered by seawater at low tide (1140) each of which support soft sedimentary communities and

community complexes. The site also contains, and is designated for, a range of coastal habitats including salt meadow, sand dunes and scrub.

Conservation Objectives for Bannow Bay SAC
The conservation objectives for marine habitats and constituent communities within Bannow Bay SAC were identified by NPWS (2012a). The natural condition of the designated features should be preserved with respect to their area, distribution, extent and community distribution. Habitat availability should be maintained for designated species and human disturbance should not adversely affect such species.

Qualifying interests of the SAC
The SAC is designated for the following habitats and species (NPWS 2012a), as listed in Annex I and Annex II of the Habitats Directive:

- 1130 Estuaries
- 1140 Mudflats and sandflats not covered by seawater at low tide
- 1210 Annual vegetation of drift lines
- 1220 Perennial vegetation of stony banks
- 1310 Salicornia and other annuals colonizing mud and sand
- 1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)
- 1410 Mediterranean salt meadows (*Juncetalia maritimi*)
- 1420 Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*)
- 2110 Embryonic shifting dunes
- 2120 Shifting dunes along the shoreline with *Ammophila arenaria* ('white dunes')
- 2130 Fixed coastal dunes with herbaceous vegetation ('grey dunes')

Aquaculture Activity Screening

The following habitats were screened and excluded from further consideration as no spatial overlap or likely interactions with aquaculture activities (existing or proposed) was expected to occur: 1130 Estuaries; 1210 Annual vegetation of drift line; 1220 Perennial vegetation of stony banks; 1310 Salicornia and other annuals colonizing mud and sand; 1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*); 1410 Mediterranean salt meadows (*Juncetalia maritimi*); 1420 Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*); 2110 Embryonic shifting dunes; 2120 Shifting dunes along the shoreline with *Ammophila arenaria* ('white dunes'); 2130 Fixed coastal dunes with herbaceous vegetation ('grey dunes').

A full assessment was carried out on the likely interactions between aquaculture operations and the feature Annex 1 habitat Mudflats and sandflats not covered by seawater at low tide (1140). The constituent communities in the broad Annex I feature Mudflats and sandflats not covered by seawater at low tide are:

- *Zostera*-dominated community – **(No overlap with aquaculture)**
- *Barnea candida* community – **(No overlap with aquaculture)**
- Fine sands with *Pygospio elegans* and *Corophium volutator* community complex
- Intertidal sand dominated by polychaetes community complex

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 namely: Fine sands with *Pygospio elegans* and *Corophium volutator* community complex, and Intertidal sand dominated by polychaetes community complex.

Screening of Adjacent SACs for ex-situ effects

In addition to the Bannow Bay SAC there are two other SAC sites (Ballyteige Burrow SAC and Hook Head SAC) proximate to the proposed activities. A preliminary screening was carried out on the likely interaction with aquaculture activities within Bannow Bay SAC based primarily upon the likelihood of spatial overlap. The AA deemed that there are no ex-situ effects and no effects on features in adjacent SACs.

Findings and Recommendations of the Article 6(3) Appropriate Assessment
Appropriate Assessment of the SAC

The Appropriate Assessment concluded (based primarily upon the spatial overlap and sensitivity analysis) that current and proposed intertidal aquaculture activities individually and in-combination do not pose a risk of significant disturbance to the conservation of habitats in Bannow Bay SAC.
While the combined spatial overlap of current and proposed oyster cultivation sites and the constituent community types of Fine sands with *Pygospio elegans* and *Corophium volutator* community complex was 14.89%, published literature (Forde et al 2015; Carroll et al 2016) suggests that activities occurring at trestle culture sites are considered to be non-disturbing to intertidal soft sediment communities.
Aquaculture activity overlaps 0.003 ha or 0.003% of Intertidal sand dominated by polychaetes community complex. Published literature (Forde et al 2015) suggests that activities occurring at trestle culture sites are non-disturbing.
Access routes used in intertidal areas, presumably by virtue of persistent compaction of the sedimentary habitats, are considered disturbing. The spatial overlap of access routes is 0.85% for Fine sands with *Pygospio elegans* and *Corophium volutator* community complex. Significant adverse impacts of activities on these community types can be discounted given this value is less than the 15% threshold of overlap between a disturbing activity and a habitat.

Conclusion

Based upon the scale of spatial overlap of current and proposed aquaculture activities and the relatively high tolerance levels of the habitats and associated species, the general conclusion is that aquaculture activities are non-disturbing to the habitat qualifying interests and their constituent communities.

In-combination effects of Aquaculture, Fisheries and other activities

Pressures resulting from aquaculture activities are primarily localised compaction of sediment along access routes. Any in-combination effects with aquaculture activities are considered to be minimal or negligible given that the pressure resulting from point discharge locations such as urban waste-water treatment and/or combined sewer outfalls would likely impact on physico-chemical parameters in the water column.

Bannow Bay Special Protection Area (SPA) (site code 004033)
Qualifying Features:

The Special Conservation Interests (SCIs) of the Bannow Bay SPA include non-breeding populations of Light-bellied Brent Goose, Shelduck, Pintail, Oystercatcher, Golden Plover, Grey Plover, Lapwing, Knot, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew and Redshank. In addition, the wetland habitats within Bannow Bay SPA and the waterbirds that utilise this resource are considered to be an additional Special Conservation Interest (the wetlands and water birds SCI).

Conservation Objectives for Bannow Bay SPA (site code 004033)

The Conservation Objectives for the non-breeding SCI species at Bannow Bay are to maintain their favourable conservation condition, which are defined by there being stable or increasing long-term population trends and no significant decrease in numbers and range of areas used within Bannow Bay. The wetland habitats within the Bannow Bay SPA and the waterbirds that utilise this resource are an additional SCI (the wetlands and waterbirds SCI). The conservation objective for this SCI is to maintain its favourable conservation condition, which is defined by there being no significant decrease in the permanent area occupied by wetland habitats.

The Conservation Objectives define the favourable conservation condition of the wetlands and waterbirds SCI at Bannow Bay purely in terms of habitat area.

Following a screening exercise, Special Conservation Interests (SCIs) from three other SPAs were included in the assessment:

Ballyteigue Burrows SPA (site code 004020) - the Conservation Objectives for the non-breeding populations of Light-bellied Brent Goose, Golden Plover, Lapwing, Black-tailed Godwit and Bar-tailed Godwit are to maintain their favourable conservation status;
Keeragh Islands SPA (site code 004118) - the Conservation Objective for the breeding population of Cormorant is to maintain or restore their favourable conservation status;
Saltee Islands SPA (site code 004002) - the Conservation Objective for the Lesser Black-backed Gull breeding population is to maintain their favourable conservation condition.

Screening

Bannow Bay Special Protection Area (SPA):

All of the SCI species (Light–bellied Brent Goose, Shelduck, Pintail, Oystercatcher, Golden Plover, Grey Plover, Lapwing, Knot, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew and Redshank) make significant use of subtidal and/or intertidal habitat in Bannow Bay.

The trestle study (Gittings and O'Donoghue, 2012) showed that, across the sites studied, Oystercatcher and Redshank generally have neutral or positive responses to intertidal oyster cultivation. The results for Bannow Bay for Oystercatcher conformed to this pattern and Oystercatcher was screened out from further assessment. However, Redshank appeared to show an exception to the general pattern at Bannow Bay and was screened in for assessment. At Bannow Bay, Curlew appeared to show a negative response to trestles and was screened in for assessment. The other SCI species either have negative responses to oyster trestles or uncertain or unknown responses. Consequently, they were screened in for assessment.

Wetlands and waterbirds

None of the activities being assessed will cause any change in the permanent area occupied by the wetland habitat. Therefore, the activities being assessed are not likely to have any significant impact on this SCI and it was screened out from any further assessment.

Ballyteigue Burrows SPA:

The SCI species for this SPA are Light–bellied Brent Goose, Shelduck, Golden Plover, Grey Plover, Lapwing, Black-tailed Godwit and Bar–tailed Godwit. While these species are potentially negatively affected by intertidal oyster cultivation, some of these species (Light–bellied Brent Goose, Golden Plover, Lapwing and Black-tailed Godwit) are known to be very mobile, as they regularly move inland to feed in fields. The other species (Shelduck, Grey Plover and Bar-tailed Godwit) are strictly confined to tidal habitats and may, therefore, be less likely to move between sites during the winter.

The site fidelity for Shelduck and Grey Plover is described as high in NPWS (2014a) indicating that movements between sites within a winter are not usually a significant factor.
The SCIs of this SPA that are known to move inland to feed on fields, and/or do not have high site fidelity, were screened in for further assessment - Light–bellied Brent Goose, Golden Plover, Lapwing, Black-tailed Godwit and Bar-tailed Godwit.

Keeragh Islands SPA:

Cormorant

The aquaculture areas are within the likely core foraging range of the Keeragh Islands populations of Cormorant. A full assessment was carried out on this SCI.

Saltee Islands SPA:

The SCIs of this SPA are Fulmar, Gannet, Cormorant, Shag, Lesser Black-backed Gull, Herring Gull, Kittiwake, Guillemot, Razorbill and Puffin. Fulmar, Gannet, Kittiwake, Guillemot, Razorbill, Puffin Special Conservation Interest (SCI) species were screened out from further assessment because they can feed in the open sea and therefore have a neutral / positive response to intertidal oyster cultivation and are not considered to have any significant spatial overlap with the aquaculture plots in Bannow Bay. The trestle study classified the response of Herring Gulls to intertidal oyster cultivation as being neutral or positive.

The mean foraging range of Shag from their breeding colonies is 6.5 km, with a mean maximum of 16 km and a maximum of 20 km. Therefore, the aquaculture activities in Bannow Bay are outside the likely core foraging ranges of the Saltee Islands population of this species. As Shags are unlikely to fly overland, any spatial overlap between the Saltee Islands population and the aquaculture activities in Bannow Bay is likely to be minimal. Therefore, this SCI was screened out from further assessment.

While the Lesser Black-backed Gull may be more likely to use food resources in the open sea compared to some other gull species, food resources in the intertidal zone can be a significant component of the diet in at least some breeding colonies. The possibility could not be discounted that intertidal habitat in Bannow Bay provides food resources for the colony. Therefore, it was screened in for further assessment.

Findings and Recommendations of the Article 6(3) Appropriate Assessment
Appropriate Assessment of Bannow Bay SPA including the Updated Assessment of Potential

Displacement Impacts:

The methodology used to identify potentially significant impacts is focused on the Conservation Objectives, and their attributes, that have been identified for the Bannow Bay SPA. Potential displacement categories are:

- significantly high levels of displacement (>10%);
- significant, or near significant, displacement levels of around 5%;
- measurable but non-significant displacement levels of 1-4%; and
- negligible displacement levels of <1%.

Species Assessment
Grey Plover: The findings of the Assessment indicate that the distribution patterns of Grey Plover have showed a marked shift away from the mid zone to the upper zone in recent winters. The shift is distribution could reflect larger scale changes in habitat suitability within Bannow Bay unrelated to

the expansion of trestles. The predicted displacement levels for Grey Plover increased strongly with increasing scale of analysis and the larger scale analyses are more likely to provide reliable predictions of displacement impacts for this species.

Dunlin: The findings of the Assessment indicate that the recorded Dunlin distribution patterns have been rather variable in recent winters and that, given the highly mobile nature of the species, four counts per winter is unlikely to provide an adequate sample for analysing changes in distribution between winters. Significant or near significant displacement levels are indicated at the two larger scale of analyses for the existing footprint of aquaculture activity.

Black-tailed Godwit have shown variable distribution patterns in Bannow Bay with mean occupancy levels in the mid zone showing an increase across recent Winters. For the renewal/trial site scenario, significant or near significant displacement levels are indicated at the two larger scales of analysis. Bar-tailed Godwit: The distribution patterns of this species have shown an apparent shift away from the mid-zone to the upper zone in recent winters and this could be interpreted as reflecting displacement impacts from the expansion of areas occupied by trestles during this period. Significant or near significant displacement levels are indicated.

Light-bellied Brent Goose showed a variable response pattern in the trestle study with neutral/positive patterns of association at some sites, and negative patterns at other sites. Light-bellied Brent Goose often feeds on the algae that attaches to the trestle bags and at some sites large numbers can be present on the trestles on the ebb/flow tides to exploit this food source. However, this behaviour appears to be rare at Bannow Bay. While there is some very limited evidence from the trestle study of a negative pattern of association with trestles at Bannow Bay, if this is the case, the assumption made in the displacement calculations represent conservative worst-case scenarios. Taking this into account it is reasonable to conclude that only the full occupation of all sites scenario presents a risk of significant displacement impacts, and even this risk has a high level of uncertainty.

Curlew: levels. It is likely that the recorded distribution patterns of Curlew in Bannow Bay reflect variations in habitat suitability and, on this basis, the smallest scale of analysis should provide the most reliable indication of the likely displacement impacts (no potentially significant displacement levels at the renewal/trials scenario). The predicted displacement impact is likely to overestimate the actual displacement impact due to the assumption of complete exclusion.

Redshank recorded patterns in Bannow Bay show little variability between Winters. This reflects the typical widely dispersed distribution of this species in estuarine habitats, which means it tends to occur at relatively uniform densities. The trestle study classified Redshank as having an overall neutral/positive pattern of association with oyster trestles (but may not be true for Bannow). The findings of the Assessment indicate that the recorded distribution patterns of Redshank in Bannow Bay reflect variations in habitat suitability and, on this basis, the smallest scale of analysis should provide the most reliable indication of the likely displacement impacts (no potentially significant displacement levels).

Knot: The recorded Knot distribution patterns have been highly variable in recent winters. This variability reflects the highly mobile nature of this species. There is no evidence in the data that displacement impacts from the expansion of areas occupied by trestles during this period have affected distribution patterns. The predicted significant or near significant displacement impact is likely to overestimate the actual displacement impact due to the assumption of complete exclusion. Lapwing: The findings of the Assessment indicate that the predicted displacement levels for Lapwings are very low under all scenarios for the smallest scale of analysis (and that the smallest scale of analysis is the most appropriate for assessing the potential displacement impact to this species).

Shelduck and Golden Plover: The findings of the Assessment indicate that the potential for displacement impacts is very unlikely for Shelduck and Golden Plover. Therefore, no impacts to the conservation objectives for these species are predicted.

Pintail: The Pintail does not currently occur at Bannow Bay and its decline and disappearance from the site does not appear to be related to the development of aquaculture activities in the bay, but may be due to a combination of a national population decline and a re-distribution of the remaining population.

Interaction with Ballyteige Burrow SPA - Light-bellied Brent Goose, Lapwing, Black-tailed Godwit and Bar-tailed Godwit

The effects of full occupation of aquaculture sites in Bannow Bay on the conservation objectives for the Ballyteige Burrows SPA would depend upon the connectivity between the two sites. If their connectivity is high, the two sites would effectively support a single population and it is possible that displacement impacts within Bannow Bay would affect attribute 1 (population trend) of the conservation objectives for the Ballyteige Burrows SPA. Any such impacts would not affect attribute 2 (distribution) of the conservation objectives for Ballyteige Burrows SPA, as this attribute refers to distribution within Ballyteige Burrows.

Cormorant
No information is available about the occurrence of visiting Cormorant from the Keeragh Island SPA within Bannow Bay. Cormorants are fish-eating birds that are primarily associated with deep sub-tidal habitats. Intertidal oyster cultivation is likely to have neutral or positive impacts on the availability of prey resources for Cormorant. Therefore, intertidal oyster culture is not likely to cause any displacement of Cormorant within Bannow Bay.

Lesser Black-tailed Gull
The AA concluded that, without firm information on the diet of the Saltee Islands Black-backed Gull colony the occurrence of Lesser Black-backed Gull in Bannow Bay during the Summer, and/or information relating to the response of Lesser Black-backed Gull to oyster trestles, it is not possible to make an assessment of the potential impact of aquaculture activities in Bannow Bay on the colony.

Summary
The displacement analysis in the original Appropriate Assessment Report predicts 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 and reported in the “Bannow Bay Special Protection Area: Updated Assessment of Potential Displacement Impacts” document 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)

Cumulative Impacts

Potential additional disturbing activities include beach recreation, bait digging, hand collection of shellfish and shore angling. 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. Consideration was also given to potential effects on food resources by bait digging, shellfish collection and changing patterns of effluent discharge (i.e. nutrient inputs). There was no evidence that any such activities / proposed changes will cause a significant reduction in food supply for any of the SCI species.

Issues arising from statutory/public consultation

- The importance of adhering to the defined access routes must be re-iterated given the presence of the vulnerable intertidal seagrass bed and a number of Annex I coastal habitats for which the site is designated.

Licence conditions will require strict adherence to identified access routes over inter-tidal habitat.

- The assessment states that there are water quality issues within the bay; however the in-combination effects of point discharges, either from waste water treatment and/or combined sewage outfalls, are not considered on the basis that these discharges affect the physico-chemical parameters in the water column whereas aquaculture activities effects the sedimentary communities directly. However, within a shallow enclosed bay, poor water quality is an important factor that can impinge on the ecological integrity of the sedimentary communities, particularly if it is on-going.

The scientific advice available to the Department does not agree with the assumption that water quality and physical impacts (access routes) on benthic communities can be additive or synergistic. From the analysis presented in the SAC report, there will likely be minimal impact on sedimentary communities from the aquaculture activities.

- While it is accepted in general that the presence of the trestles on the intertidal has a benign effect, there is a threshold at which the density of trestles and their orientation is likely to have baffling effect that may result in alterations to the sediment below the trestles.

The AA conclusion of a lack of impact on benthic communities from trestles is derived for targeted studies carried out on a range of sites around the coast, including Bannow Bay. For the most part, these intertidal communities are typically impoverished with low numbers of species and overall abundances. Furthermore, these studies were specifically carried out among structures configured at the optimum culture density, i.e. rows of trestles are separated to ensure a lack of baffling and potential competition for food (phytoplankton) resources.

Concerns that the expansion of trestle-based aquaculture in Bannow Bay may have influenced the distribution of some of the bird species studied by Bird Survey Ireland in 2014/15 and 2015/16.
The concerns identified are reflected in this Conclusion Statement "It is proposed to licence aquaculture in Bannow Bay ... in conjunction with the preparation and implementation of an Adaptive

Management Plan and a targeted monitoring programme of shorebirds. In the event of increased displacement of shorebirds being observed, specific management actions (with a view to reducing disturbance effects) will be implemented in full (these will be operationalised in licence conditions)"

Further expansion of aquaculture activities should not be permitted at Bannow Bay so as not to prejudice the long-term conservation of the biodiversity of the bay and to protect habitat type 1140 'Mudflats and sandflats not covered by seawater at low tide'.

The consequences to Annex I habitat (1140) 'Mudflat and sandflats not covered by seawater at low tide' were fully considered in the AA report. The Department's scientific advisors are confident that the levels of activity that might result in damage to the integrity of this habitat have been identified so that appropriate licensing decisions can be made.

SUMMARY OF MITIGATION MEASURES AND MANAGEMENT ACTIONS THAT ARE BEING IMPLEMENTED AS A CONSEQUENCE OF THE APPROPRIATE ASSESSMENT PROCESS

Taking account of the recommendations of the Appropriate Assessment process, as well as additional technical/scientific observations, it is proposed that the following measures be taken in relation to the licensing of aquaculture in these Natura sites:

 The findings of the Appropriate Assessment process indicate that for the licensing of renewals the predicted displacement levels for all species are well below the 5% significance threshold. However, the renewal and trial sites scenario would likely 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).

It is important to note that the 5% disturbance threshold identified in the assessment reports is used as a guide. It does not preclude licensing, particularly with estimates in and around 5%, but does require mitigation and/or appropriate management actions to be taken to reduce the risk of disturbance in the event licensing is approved. Furthermore, account has to be taken of the positive role shellfish has in the ecosystem function in terms of nutrient and phytoplankton mediation as well as provision of habitat.

On this basis, it is proposed to licence this category (renewals + trial, circa 50 ha footprint – this is, in effect, re-licensing existing activity). This will be done in conjunction with the preparation and implementation of an Adaptive Management Plan and a targeted monitoring programme of shorebirds. In the event of increased displacement of shorebirds being observed, specific management actions (with a view to reducing disturbance effects) will be implemented in full (these will be operationalised in licence conditions).

 Full occupation of all the aquaculture sites is predicted to cause high levels of displacement to the Bannow Bay Grey Plover, Black-tailed Godwit, Bar-tailed Godwit, Knot and Dunlin.

On the basis of the Appropriate Assessment findings it is not proposed to licence any new aquaculture activity in Bannow Bay as there are no clear mitigation measures available to prevent the risk of the deterioration of the conservation status of the referenced shorebirds.

 All aquaculture licences are subject to standard licence conditions, which cover, among other things, any further actions that might be required in the event of deterioration of conservation status of species/habitats at site level that is directly attributable to shellfish culture operations.

Conclusion

The Minister is satisfied that from a Natura 2000 perspective, given the conclusions and recommendations of the Appropriate Assessment process, along with implementation of the above measures that will mitigate certain pressures on Natura features, the proposed licensed activities are not likely to have a significant effect on the integrity of Bannow Bay SAC and Bannow Bay SPA, (including consideration of the Ballyteigue Burrows SPA, Keeragh Islands SPA and the Saltee Islands SPA).

Submission 10

Sea Fisheries Protection Officer Observations

1. Possible impacts, if any, on existing wild fisheries in the area, with an emphasis on the possible implications for the SFPA conducting official controls and possible non-compliance issues that could arise.

The supporting documentation for the application indicates that disturbance to the seabed from surveys will be minimal. These areas are important for local wild fisheries. However, due to the non-invasive nature and short duration of the surveys I do not think they would have a significant impact on the wild fisheries in the area. The proposed wind farms themselves will be outside of the 12nm limit which will limit the potentials effects of wild fisheries. The surveys should not affect the ability of the SFPA to conduct fisheries control vessel landing inspections or coastal patrols.

2. Impacts, if any, on shellfish growing areas adjacent to or within the area and the possible impact on the ability of the SFPA to conduct official controls and possible non-compliance issues that could arise.

There are shellfish growing areas located in Bannow, in one of the survey areas. These will need to be taken into consideration when completing surveys. However, as the surveys are non-invasive this shouldn't interfere with these growing areas. The location are the wind farms themselves won't interfere with coastal shellfish sites due to 25km distance from the coast. The project should not impact on SFPA officials or cause any disturbance to shellsan sampling.

3. *Possible impacts, if any, on seafood safety*.

There is no impact anticipated on seafood safety. There are no food business operators in close proximity to either survey site that could be impacted by these surveys or the proposed wind farms.

Sea-Fisheries Protection Authority
Date: 06/12/22