Issued.

An Roinn
Ealaíon, Oidhreachta agus Gaeltachta
Department of
Arts, Heritage and the Gaeltacht

Kieran Doherty
Executive Officer
An Bord Pleanála
64 Marlborough Street
Dublin 1.

27th May 2016.

Re: Galway Harbour Extension, Renmore and Townparks Townlands, Galway and proposed compensatory measures.

Dear Sir,

Further to recent correspondence on the above matter, and the proposed compensatory measures submitted by Tobins on behalf of Galway Harbour Company, the Department has the following observations.

The Department has received the following documentation from the Board:

- The Board's Statement of Appropriate Assessment (Article 6(3))
- Thomson Unicomarine's Report February 2015 "Galway Harbour Extension Project: Assessment of Ecological Impacts on the Marine Environment for An Bord Pleanála"
- The Applicant's Compensatory Measures Report, submitted by Tobins and prepared by Aquafact November 2015. This comprises a main report (26 pages) and the following Appendices:
    - Appendix 1 – copy of the Board's correspondence of 29/09/15;
    - Appendix 2 – copy of the Board's *"Statement of appropriate assessment (Article 6(3))"* (September 2015);
    - Appendix 3 – some text on 'Characterising species of fucoid reefs and muds and sand flats' – context unclear and source/authority not identified
    - Appendix 4 – some text on 'Characterising species of stony banks' – context unclear and source/authority not identified (though it appears to be from this Department's Article 17 Report).

The Department also has regard to:

- Advice the Department gave to the applicant at the pre-planning stage

- Previous observations it has made to the Board in relation to this application
- Statements made by the Department at the Oral Hearing (January 2015)
- Guidance of the European Commission in relation to Article 6 of the Habitats Directive
- The Department's own guidance for planning authorities on appropriate assessment
- Recent national and European jurisprudence concerning Article 6 of the Habitats Directive, including Balz et al vs An Bord Pleanála.

The Department notes that the information submitted by the applicant in relation to proposed compensatory measures is intended to inform the first phase of their development. As such the Department's observations focus primarily on ecological and scientific matters, rather than matters relating to potential designation processes, ratios of compensatory habitat required, conservation measures required to ensure future prospects, feasibility (*e.g.* in relation to landowners, further requirements for appropriate assessment to support other consent process *etc.*), budget *etc.* However, it is recommended that the applicant is advised to have regard to these as they continue to develop their proposals, and also to clearly link all proposed compensatory measures to site integrity, which includes the sites' conservation objectives and current conservation condition.

Specific comments:

During the course of the Department's interactions with the applicant at pre-planning stages and then through the planning process, the Department raised concerns about the adequacy of the scientific information provided by the applicant for the purposes of the appropriate assessment that had to be conducted. A number of these do not appear to have been resolved with any further scientific information or data in the documentation since provided to the Department. These particularly concern:

- Perennial vegetation of stony banks (1220), qualifying interest for Galway Bay SAC (000268)
- Harbour Seal, qualifying interest for Galway Bay SAC
- Turnstone and Great Northern Diver, Species of Conservation Interest for Inner Galway Bay SPA (004031)
- Cumulative effects arising from the previous development of Galway Harbour Enterprise Park.

A clear and precise Article 6 (3) appropriate assessment is needed in order to identify the compensatory measures required to protect the coherence of the Natura 2000 network. As such, the Department is of the view that the applicant should be requested to resolve these matters with scientific information to ensure that the compensation measures are sufficiently robust. Some of inadequacies relating to the earlier information (including, but not only, with respect to the characterisation of habitats) also apply to the applicant's

compensation proposals. The Department acknowledges that the applicant was requested to provide proposals for preliminary consideration only. However, the proposals are based on only limited information, and are vague in nature, to a degree that the Department is not in a position to come to a view as to their feasibility, appropriateness *etc.* Because of this combination of factors, the Department is not yet in a position to indicate that the applicant's proposed compensatory measures, as currently set out, are or will be acceptable in principle.

A range of steps that could be undertaken to resolve these matters is set out in more detail below. The Department has endeavoured to provide a sufficient level of detail in these observations to help the Board to decide how to proceed, and to facilitate the further development by the applicant of the information necessary to demonstrate that their proposed compensatory measures will protect Network coherence. The Department will be happy to meet with the Board following their consideration of this submission, and to help progress matters with the applicant as efficiently as possible.

Annex I Marine Habitats

As evidenced by the documentation, it is clear that the proposed development will result in a loss of *Mudflat and sandflat not covered by seawater at low tide* (1140) and intertidal *Reef* (1170) beneath the direct footprint of the harbour extension. In documentation supplied by the proponents this is evaluated as totalling 5.93 hectares. Due to the nature of the habitats involved, *i.e.* because both habitats are interspersed and an individual calculation could not be completed with accuracy, the Department is of the view that it would not be appropriate to delineate the individual contribution of each Annex I habitat type to the area to be lost. The majority of the development will occur in transitional waters (*i.e.* those with lower salinity). This type of habitat does not conform to the definition of the habitat type *Large Shallow Inlets and Bays* (1160) and hence it is not a qualifying interest for Galway Bay Complex SAC. It can be concluded that the most significant direct impact to the Galway Harbour SAC will be from the loss of intertidal Annex I habitat beneath the intended built structures.

Compensatory measures for *Reef* and *Mudflat/Sandflat not covered by seawater at low tide*

The proposed measures suggest that an area adjacent to the boundary of Galway Bay Complex, extending westwards as far as Barna, Co. Galway holds a suitable compensatory habitat for *Reef* and *Mudflat/Sandflat not covered by seawater at low tide*. It indicates that approximately 7.46 hectares of "sand" and 21.15 hectares of "reef" are present in this proposed location and it is proposed that the SAC boundary be extended to include this area.

Although some figures (*e.g.* Figure 3) have been provided to indicate the location, there is no ecological and scientific detail presented in the report to demonstrate the quality of this proposed compensatory habitat, or to support the statement "*...it is known that both habitat types are present at the site and are fully functional in the proposed extension area, it is possible to see why a 1:1 ratio is appropriate*"[1]. Thus, it is not yet clear to the Department that these are or even may be suitable "like-for –like" replacements for the habitats to be lost. For instance, there is no information presented to demonstrate that the habitats at the compensatory site conform to the EU definitions of those Annex I habitats. There is no biological information presented which could attest to those qualities nor could it be ascertained that the quality of those compensatory habitats is equal or better than those which will be lost. These are significant shortfalls but they could be satisfied by appropriate biological sampling at both sites, *i.e.* of the proposed compensatory habitats and in the vicinity of the Port works.

Perennial vegetation of stony banks (1220)

As set out consistently by the Department, the stony banks habitat in/near the application area was never adequately characterised and assessed in the original NIS or other reports. In addition, it is noted that the site was visited and assessed shortly after a storm event. In order to understand the implications of the development for the site's integrity, the habitat should have been mapped and assessed in terms of area, structure and functions and future prospects. A detailed map of the habitat is not provided; a photographic record of the site would also have been helpful.

According to the Board's documents, the area that will be lost equates to 0.35ha of the habitat. However, it is not clear whether this equates to areas of bare shingle and/or vegetated shingle. While the Department acknowledges that the accurate mapping the area of vegetated shingle can be challenging due to the dynamic nature of the systems and the often sparse cover of the vegetation, this is an important consideration in terms of the area of habitat for which compensation is to be sought.

The text contained in Appendix 4 – Characterising species of stony banks, is taken directly from the most recent Article 17 report for this habitat type (NPWS, 2013). This is generic text and does not reveal any site-specific information about the site to be affected, or the proposed compensatory habitats. The habitat *Perennial vegetation of stony banks* refers to vegetation that is found above the high tide mark on beaches comprised of shingle (cobbles and pebbles). The degree of exposure, as well as the coarseness and stability of the substrate

[1] Applicant's Report, November 2015, page 18.

determine species diversity. It is dominated by perennial species (*i.e.* plants that continue to grow from year to year). Some of the typical species includes sea beet (*Beta vulgaris* ssp *maritima*), rock samphire (*Crithmum maritimum*), yellow horned-poppy (*Glaucium flavum*), sea sandwort (*Honckenya peploides*), curled dock (*Rumex crispus*), sea campion (*Silene vulgaris* ssp.*maritima*), and sea mayweed (*Tripleurospermum maritimum*). A number of rare species, including sea pea (*Lathyrus japonicus*), oysterplant (*Mertensia maritima*) and sea-kale (*Crambe maritima*) are also found in this habitat.

The establishment of vegetation on shingle beaches is determined by three key factors. The first is the mobility of the beach. If a beach is highly mobile then a seed is likely to be washed away before it is able to germinate and so the frequency of inundation of a site will have an important influence on the vegetation of that site. The second is the shingle substrate and the presence or absence of a fine matrix in the shingle. The final factor influencing the presence of vegetation on a shingle beach is the hydrological status of the shingle. Shingle has a high porosity and low water retention. However, this is overcome to some extent by the presence of a fine matrix which serves as a reservoir of water which is critical at the germination stage of seed development. To sum up, the establishment and maintenance of a permanent flora on shingle beaches is dependent upon the mobility, matrix and moisture conditions of a particular beach. Information of this nature is lacking in the report.

There are a number of different sub-types of vegetated shingle recognised (Chapman 1976) and the applicant will need to provide scientific ecological information to categorise the area affected and the proposed compensatory areas. These categories vary according to their mobility and oceanicity and they therefore offer different stony bank sub-habitats. The different types include:

- **Fringing beach**, which comprises a narrow strip of shingle in contact with the land along the top of the beach. These are usually subject to regular inundation by the sea and so support only an ephemeral, transient strandline flora.
- **Shingle spits** are strips of shingle which grow out from the coast where there is an abrupt change in direction of the coastline. They commonly occur, therefore, along coasts which have an irregular coastline. Spits often display recurved hooks along their length and at their distal end where the shingle is, or has been, subject to wave action from two or more directions. Indeed, in many cases it is possible to trace the development of a spit's growth via recurved hooks, seen as lateral projections from the lee of the spit, which locate the position of past distal ends.
- **Shingle bars**, are geomorphologically similar to spits representing the extreme case of a spit which has grown across an estuary or coastal indentation. This results in the formation of a lagoon behind the bar which clearly affects the ecology of the leeward slope.
- **An apposition beach**, where a series of shingle ridges are deposited and driven landwards by storm waves. If repeated over time, a series of almost parallel ridges may be produced. Should the

predominant wave direction change it leads to the formation of a second set of apposition ridges deposited at a different angle to the original ridges and the subsequent formation of a cuspate foreland, a triangular shaped mass of shingle. Such features often support a terrestrial flora inland of the coastal ridges.

- **The barrier island**, formed where a large mass of shingle has been deposited offshore and which often acts as a shingle skeleton for the formation of sand dunes.

These shortcomings in the characterisation and mapping of the habitat to be affected by the development will need to be resolved by the applicant.

Compensatory Measures for *Perennial vegetation of stony banks*

In view of the above, the "like-for-like" requirements for the proposed compensatory habitat cannot adequately be assessed as the Department has not been presented with a clear picture of the area that will be affected or the proposed alternative sites. It appears that the area of vegetated shingle that will be impacted by the development of Galway Port is low-lying and borders a lagoon in a comparatively sheltered setting that is subject to some landward movement due to storm surges. On the other hand, west of Silverstrand, the shingle beaches are typically more exposed and higher with larger cobble sizes. Detailed maps and photographs of potential compensation sites would have allowed the Department to form a clearer view as to their potential acceptability.

No reference is made in the Aquafact report to the conservation objectives of the site[2], which were published in January 2013 (almost a year prior to the submission of the application to the Board). Based on the information available at the time for the site, the conservation objective for the habitat at this SAC is to "'maintain the favourable conservation condition". Had the authors consulted the conservation objectives documentation for the site, in particular the supporting document for the coastal habitats, they would have been aware of the data available from the National Shingle Beach Survey (NSBS) (Moore & Wilson, 1999). This was an initial national inventory of shingle beaches, listing 153 potential sites for the habitat "perennial vegetation of stony banks". During this survey, each site was visited and general observations and notes were recorded, including the compilation of plant species lists, while associated habitats were also noted. A profile sketch and photographic record was also made of each site. On completion of the fieldwork, each site was ranked of High, Medium or Low Importance, based on site representativity, species diversity, habitat diversity and the presence of rare or scarce species. The summary report for this survey is available[3] and the relevant individual site reports can be made available on request from the Department.

[2] The documents can be downloaded at: http://www.npws.ie/protected-sites/sac/000268
[3] Available at http://www.npws.ie/content/publications/national-shingle-beach-survey-ireland-1999

The report states that the compensatory measures are set out initially in summary format in Section 5.1 and in more detail in Section 5.2 to 5.7, but there are no sections 5.3 to 5.7. The report as provided does not adequately explain how the different options for compensating habitat losses within the SAC/SPA are considered initially or explain the reasons why they were excluded as being unviable.

Section 4.1.2.2 of the Aquafact report states that *"both from AQUAFACT's studies and those of Dr. Michelene Sheehy-Skeffington, degraded stony bank habitat does not occur within the cSAC"*, but no data or details of any review, surveys or assessments undertaken are presented. A cursory examination of recent aerial photographs indicates that much of the shoreline of Galway Bay SAC is shingle-based. It is not clear from the Aquafact report what, if any, consideration was given to examining possible sites for "replacement designation" or the active creation of new areas of compensatory habitat, either within or directly adjacent to the SAC. Therefore, it does not appear that this option has been adequately explored.

It is worth noting that the NSBS visited the following three sub-sites within Galway Bay Complex SAC:

- Rinville Point (a broad vegetated spit below Rinville Golf Course and Country Club on the eastern shore of Galway Bay)
- Tawin Point (situated on the eastern shore of Galway Bay)
- Coastline from Blackhead to Carrickada (along the southern shore of Galway Bay in County Clare).

Profiles and transects were recorded from each shingle beach and each site was assigned a crude High/Medium/Low interest ranking. A 'high interest' ranking denotes a site that is of high conservation value. The site may be of interest botanically or geomorphologically. A 'medium interest' ranking implies the site may be extensive but not of particular interest, either botanically or geomorphologically. A 'low interest' ranking is reserved for small sites, highly damaged sites or sites that are of a very common classification. Tawin Point was rated of 'high interest' due to the presence of a population of yellow horned poppy (*Glaucium flavum*), while Rinville Point and coastline from Blackhead to Carrickada were rated of 'medium interest'. The habitat was not mapped but the vegetation was recorded, as were the human impacts and alterations at the site, which are useful tools for assessing the Structure & Functions of the site. Some vegetated shingle was also recorded during the Coastal Monitoring Project (Ryle *et al.,* 2009). Small areas of the habitat were found at two dune sub-sites located within Galway Bay SAC: Bishopsquarter and Barna (Whitestrand).

The only "viable" option, as identified by Aquafact, is to compensate the stony bank habitat losses with areas of similar "replacement" habitat outside European sites. However, no specific area or possible areas are identified even though the NSBS surveyed a number of other sites along the Galway coastline, two of which lie in the area referred to in Point 12 above. These sites are:

- Loughaunbeg to Cora ne Ceibhe (site code: 064)
- Spiddle beach to Ballymoneen (site code: 065)

Both of these sites were rated of 'medium interest' and were noted to be well vegetated in places. Rather a stretch of 30kms of coastline is indicated extending west from Silverstrand (and the SAC/SPA) as far as Cashla or Costelloe Bay, accompanied by a statement that *"this section of Galway Bay is known to contain areas of both natural and degraded stony bank habitat"*. No further details are presented and it is not clear what is meant by the terms natural or degraded. These terms will need to be clarified.

The report states that *"Dr Sheehy-Skeffington ....was strongly of the opinion that designating a new area to the west of the existing cSAC boundary is the best solution (in the sense of level of success) and will not therefore impact on the Galway Bay cSAC"*. It is not clear what is meant by the latter part of this statement and no documentation from Dr Sheehy-Skeffington has been provided by the applicant to explain or substantiate it.

Saltmarsh:

The applicant has proposed (Section 5.2.3) that 3ha of its Renmore lands to the east of the Port for designation as SAC, to afford it *"appropriate protection into the future for the benefit of the listed habitats and species that are known to occur there"*. It states that the location, bordering Lough Atalia, merits designation under both the Birds and Habitats Directives. However, the Department's records show that this section of land was previously appealed out of the SAC. The Department's Mapviewer also shows this area as outside the SPA, though the applicant states it is within. The area is also a proposed Natural Heritage Area.

The Department is also aware that the management of part of these lands may have previously been conditioned as areas to be maintained and conserved as a condition of the permission for the previous development for the Galway Harbour Enterprise Park.

The Department would welcome clarification on the area proposed, whether it is the same lands included in the conditions for the earlier consent, as well as further information on the current ecological merits for its inclusion in the SAC, as they relate to the conservation objectives for the site.

Harbour Seal (1365)

The regular use of this marine habitat and waters around the existing harbour entrance and mouth of the River Corrib, including for seal foraging and feeding activity, has been well demonstrated by the Applicant and also raised by this Department. In its previous submissions, the Department consistently raised scientifically-based concerns about the effects of the proposed development on the harbour seal, a qualifying interest for Galway Bay SAC. The applicant also acknowledged that significant impacts on the species could not be ruled out. However, in the documents provided by the Board and its advisors, a precautionary approach does not appear to have been applied to this and there is no indication of a requirement for measures to be proposed to compensate for:

- the **direct and permanent loss of 26.93ha of subtidal and intertidal habitat** of harbour seal (Phoca vitulina) within the site that will arise as a consequence of the proposed harbour extension.
- potential **direct and long-term barrier and/or disturbance effects on the range and habitat use** by the harbour seal population within the site that may be imposed by the proposed development and future human activities occurring in association with it (*e.g.* increased commercial shipping, leisure boat activity, tourism and maritime events, etc as documented by the Applicant).

The full extent and permanency or otherwise of any other changes to harbour seal range within the SAC arising from the development and its ecological footprint, including any in-combination impacts from non-development activities for example, are still unknown. In addition, the view of the Applicant's ecologist that a newly proposed wildlife pass provided some scope to alleviate a possible barrier effect on seals from the proposed development was not supported by any scientific evidence and also failed to take into account human activities around the immediate site of the proposed pass which, it could be argued, might render it useless to wild harbour seals.

In view of the conservation objective for this species at this site, which includes a target that *Species range within the site should not be restricted by artificial barriers to site use*, as well as the spatial/temporal level of impact on harbour seal range and habitat use within the site that is either (a) demonstrated by the project or (b) cannot be discounted by the Applicant, there is cause for concern as to the net effect of the development on the harbour seal population within the site.

The conservation objective for this species for this site, also includes a target that human activities should occur at levels that do not adversely affect the harbour seal population at the site. This includes proposed activities or operations that may result in the deterioration of key resources (*e.g.* water quality, feeding, etc) upon which harbour seals depend. It is clear from the documentation submitted by the Applicant that this conservation target cannot be met with confidence due to uncertainty around the impact of the development on harbour seals in Galway Bay Complex SAC. The documented view of the Applicant's ecologist that *"it is not possible to state beyond reasonable scientific doubt that habitat loss (or the effects of operating disturbance) will not affect harbour seal at the population level"*[4] echoes a significant concern for this Department about possible adverse effects of the development on the integrity of the SAC.

Compensatory Measures for Harbour Seal

In light of the above, and that no further scientific rationale has been put forward to resolve these concerns, the Department is of the view that a precautionary approach should be applied for this species. The Department recommends that two potential options should be explored. These are as follows:

- A seaward boundary extension to the existing Galway Bay SAC, in order to capture a greater extent of suitable foraging and feeding habitat for the species within the wider area of Galway Bay, thereby compensating for what may be lost in the inshore harbour area. A determination of the extent of the extension required would need to be supported by aerial survey work. The Department would be happy to discuss the most appropriate methodology and timeframe for the production of reliable results, with the Board and the applicant, in due course.

- The potential inclusion of harbour seal as a Qualifying Interest in the Aran Islands SAC, where the species' occurrence is well established, well documented and the site already contains a substantial area of aquatic habitat around the islands of Inis Mór, Straw Island, and the Brannock Islands, all of which contain haul-out groups of harbour seal during the annual cycle.

Inner Galway Bay SPA (004031)

With regard to the Inner Galway Bay SPA, the Board's statement of appropriate assessment, which was informed by the Thomson Unicomarine Report, states that:

[4] p2, Applicant's *Response*

- Loss of intertidal and subtidal habitat, underwater noise and vibration and disturbance during construction are likely to have a moderate adverse impact on many of the bird species that are qualifying features of the SPA
- Disturbance caused by an increase in shipping traffic during operation are likely to have a moderate adverse impact on some of the bird species that are qualifying features of the SPA.

As reflected in the Board's conclusion, these matters were discussed extensively at the oral hearing. The Board has concluded that *"further surveying or analysis was unlikely to resolve this lack of agreement in view of the current understanding of the behaviour of marine birds"*. The Appropriate Assessment Conclusion paragraph makes no reference to the SPA, even though it has acknowledged that moderate adverse impacts will arise. Neither does it reflect the issue of the previous habitat loss from an earlier stage of the Port's development.

The Department's views on these matters remains the same as those expressed previously, including that some of these matters may be resolved by further survey effort, as raised previously (further detail below).

Turnstone

With regard to the permanent loss of intertidal habitat, both historical and planned, there exists uncertainty with regard to the impact on Turnstone under both attributes, but the second attribute in particular, of the conservation objective for the site, which is *"To maintain the favourable conservation condition of the waterbird Special Conservation Interest species listed for Inner Galway Bay SPA."*

This objective is defined by the following attributes and targets:-

1. To be favourable, the long term population trend for each waterbird Special Conservation Interest species should be stable or increasing.
2. To be favourable, there should be no significant decrease in the range, timing or intensity of use of areas by the waterbird species of Special Conservation Interest, other than that occurring from natural patterns of variation.

Factors that can adversely affect the achievement of this conservation objective include:

- Habitat modification: activities that modify discrete areas or the overall habitat(s) within the SPA in terms of how one or more of the listed species use the site (*e.g.* as a feeding resource) could result in the displacement of these species from areas within the SPA and/or a reduction in their numbers .

- Disturbance: anthropogenic disturbance that occurs in or near the site and is either singular or cumulative in nature could result in the displacement of one or more of the listed waterbird species from areas within the SPA, and/or a reduction in their numbers.

The level of survey work conducted on the remaining intertidal habitat at this particular location was well studied and the importance of this site for Turnstone was characterised through various surveys. However, the Department's Brief of evidence on Ornithology at the oral hearing highlights relevant issues.

The Department recommends the applicant be asked to collect wintering waterbird data of non-SPA designated but adjacent intertidal habitats that are of similar character to the habitats that will be affected by the Port extension. This would allow for the identification of suitable intertidal areas that could be included into the SPA network as compensation for the historical and planned loss of intertidal habitat. A series of both low and high tide counts conducted twice per month for the months of September – March inclusive for at least one cycle would provide an evidence base that could underpin a potential change in the SPA boundary. Possible methods would include those that characterise the site in the EIS and NIS, as well as standard low and high tide surveys[5].

Great Northern Diver

Inner Galway Bay SPA is the most important wintering site in Ireland for Great Northern Diver as measured by I-WeBS. It can be estimated that approximately 14% of the national population occurs at this SPA. The Department consistently expressed concerns on the lack of data on the numbers and distribution of Great Northern Diver and other species that use subtidal waters using the middle part of the bay. Only a proportion of the subtidal waters are regularly monitored by land-based methods. Significant areas of the bay are subtidal and, due to their relative shallow depth, are considered to be suitable for Great Northern Diver.

Notwithstanding the additional observations that were submitted by the applicant following the conclusion of the oral hearing's ecology module, the Department's concerns as to the lack of data with regard to how the birds use the subtidal waters, as well as the lack of data with regard to the potential predicted pressures caused by both commercial and recreating watercraft remain. It is acknowledged in the Thomson Unicomarine report that "*the impacts of disturbance due to increased shipping traffic during operation on sensitive biological receptors in the site- especially marine birds- have not been fully assessed. The impact of distrubance on marine birds is likely to be moderate adverse and may not be ecologically significant.*" The scientific basis for this conclusion (of

[5] See http://www.npws.ie/sites/default/files/publications/pdf/IWM80.pdf and http://www.birdwatchireland.ie/LinkClick.aspx?fileticket=Ih2CTtw9bjs%3D

potentially not being ecologically significant) is not stated, and it is unclear why it was not considered as important that data with regard to the bird use of all the subtidal waters of the SPA (in order to contextualise the potential loss of such habitat directly through the construction of the harbour but also indirectly though the increased shipping and recreation boating that will be associated with this development) was lacking. This is key to understanding the effects of the propose development on the integrity of the site.

Information with regard to how birds use the subtidal waters of all of Inner Galway Bay could be collected by undertaking dedicated survey transects of the bay by boat or by airplane[6]. For boat surveys, the transect should be 2km apart to avoid double-counting whilst allowing the densest coverage feasible. Ideally the surveys could operate once per month for two years with a view to capture inter-annual variation but a regime of two surveys per month for one calendar year would also gain very useful data. Surveying areas adjacent to the SPA would also be useful to rule out the likelihood of significant effect of the direct habitat loss and the indirect, yet associated, impact on species like great northern diver, due to the predicted increase in watercraft activity in the SPA.

The Department would be happy to discuss the detail of the propose methodology further.

Other qualifying interests for Galway Bay SAC:

The Department has no further observations to make in relation to the effects of the proposed development on otters (1355), or on the priority habitat, lagoons (1150*).

Cumulative losses and effects on the European sites:

Previous losses:

The potential for in-combination effects has been recognised both within the EIS and NIS. This includes a previous loss of habitat associated with the development of the Galway Enterprise Park. This matter has been consistently raised by the Department and is reflected in the Thomson Unicomarine Report (page 33) as an "ecologically significant adverse impact". However, it does not appear to be reflected in the documents prepared by the Board; neither is any scientific evidence provided to demonstrate that this habitat loss would not affect the integrity of the site. This cumulative loss is calculated to be 14.51 hectares of the intertidal Annex I habitats (*Mudflat and sandflat not covered by seawater at low tide* and intertidal *Reef)*.

The historic loss is similarly an issue for the SPA (see SPA Section above).

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[6] see http://jncc.defra.gov.uk/pdf/Camphuysenetal2004_COWRIEmethods.PDF

Other proposed compensatory measures

Tern platform

The applicant has also proposed a Tern nesting platform for installation within transitional waters in the SPA between Hare and Rabbit Islands (20m x 20m). The applicant has not yet explained the need for this in relation to site integrity or compensation required to maintain network coherence. Interactions with other qualifying interests have yet to be considered or assessed, as well as the consents that may be needed from other authorities. For example, as this is proposed to be raised on piles, it would involve additional pile driving, and other construction and vessel-based activities to those that have already been the subject of EIA, AA, *etc.* under the GHE project. As such, they would require a further AA screening and possibly, appropriate assessment of their potential effect on the conservation objectives for harbour seal, and other QIs, in the Galway Bay Complex SAC.

Removal of old construction rubble

The applicant proposes to remove old construction rubble which is impeding the tidal flow regime in the channel to enhance the intertidal habitat at the entrance to the Lough Atalia. The origins of the rubble are not stated *i.e.* whether it originated from the works undertaken by the Port or other parties. It is unclear why this is considered compensation for the proposed development rather than a matter that needs to be resolved to avoid site deterioration, a waste disposal matter and/or an existing responsibility of the Port Authority under Regulation 27 of the European Communities (Birds and Natural Habitats) Regulations 2011. Further clarification would be welcomed.

Proposed wetland creation

No ecological data has yet been presented to explain how this would compensate for damage arising from the proposed development or to link it to the QIs/SCIs for the sites affected. It is proposed that this area would then be designated as SAC and SPA, and will require land access and planning permission. The Department would need further ecological data and justification from the applicant to consider this measure any further.

The applicant is advised to refer to the Commission's Guidance on Article 6 (4)[7] which advises that *"Any secondary or indirect measure that might be proposed to enhance the performance of the core measures or the outcome of the compensation scheme, must have a clear relationship to the objectives and targets of the compensatory scheme".*

[7] Reference provided in earlier submissions

Monitoring

The applicant states *"An annual monitoring programme of key species of these habitats is recommended in order that NPWS can comply with Article 17 of the Habitats Directive".* It is the Department's view that a monitoring scheme will need to be set out and established by the applicant, as a condition to any permission that may be granted for this development, in order to demonstrate the effectiveness of any and all compensation measures.

Other projects that may have implications for proposed compensatory measures:

The Department became aware in the summer of 2015 that Galway City Council had obtained planning permission from the Board in 2007, for major rock revetments and a coastal walkway with footbridge between Silverstrand and Sailin. This project is primarily within Galway Bay SAC and Inner Galway Bay SPA. A foreshore licence is currently under consideration by the Department of Environment, Community and Local Government. If the Council receives a licence and proceeds, the project may have implications for some of the compensatory measures proposed by the applicant. It is recommended that the applicant and/or the Board establish whether there any other extant permissions that may affect the effectiveness of the current or yet-to-be proposed compensatory measures.

As expressed earlier, the Department will be happy to meet with the Board following their consideration of these observations.

Yours sincerely,

Ciaran O'Keeffe

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References

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