An Bord Pleanála

Inspector's Report PA 00033 – Supplementary Report

Development	Supplementary Report on PA 0033 – Galway Harbour Extension – Proposed Compensatory Measures.
Location	Areas of Renmore, Tawin Island, and Mweeloon within Galway Bay, Co Galway.
Planning Authority	Galway City Council and Galway Co. Council.
Planning Authority Reg. Ref.	Not Applicable.
Applicant	Galway Harbour Company.
Type of Application	Section 37E Application (Compensatory Measures Proposal).
Planning Authority Decision	Not Applicable.
Date of Site Inspection	16th and 17th of February 2017 (accompanied by Mr. Daniel Bastreri – Ecological Consultant).
Inspector	Paul Caprani.

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1.0 Background

1.1. Proposed Development:

1.1.1. Planning permission was sought by Galway Harbour Company for an extension of Galway Harbour at Renmore and Townparks Townlands, and on lands to be reclaimed from the foreshore and the sea in Galway Bay, to the south of the existing Galway Harbour Enterprise Park. The works will include re-development of some of the lands at Galway Harbour Enterprise Park. Access to the development will be via the existing access at the junction of Lough Atalia Road and Bóthar na Long. The proposed development will include the relocation of the majority of the existing harbour related activities and businesses from the existing dock area to the new deep-water berths, quays, jetties and yards to be located at the harbour extension.

1.1.2. The proposed development is largely in an area of Galway Bay which is designated as a candidate Special Area of Conservation (cSAC) and a Special Protection Area (SPA) and includes works on Lough Atalia Road Rail Bridge (a protected structure).

The main elements of the development proposed include:-

- quay walls, breakwaters and wave walls to create commercial quays and a deep-water docking facility, extending southwards into Galway Bay,
- dredging to create a new approach channel to the commercial quays and the deep-water docking facility berths,
- reclamation of approximately 27 hectares from the foreshore and seabed,
- development of the reclaimed lands and redevelopment of part of the adjacent Galway Harbour Enterprise Park lands for harbour related business,
- marina on the western side of the proposed main harbour,
- fishing quays, slipway for a lifeboat station and a nautical centre on the eastern side on the main harbour facility,
- a twin track freight rail link from the existing Galway to Dublin rail line to the commercial quays, including embankments, rail overbridge to existing service road and noise abatement screening,

- the construction of oil and bitumen transfer pipelines to the existing oil and bitumen tank farms on the Galway Harbour Enterprise Park and the provision of fire water storage facilities. This falls within the remit of EU Directive (96/82/EC) on the control of major-accident hazards, (known as the Seveso II Directive),
- harbour related buildings, including Port Operations Office (four storeys); Harbour Management Warehouse (single storey); Marina Office (single storey); Passenger Terminal (single storey); and ancillary car parking and site services, including three number ESB sub-stations, demolition of one number ESB sub-station, three Control Offices and Oil Terminal Water Pumphouse and a helicopter pad for search and rescue purposes,
- the construction / improvement of access roads including the horizontal and vertical realignment of the road under Lough Atalia Road Rail Bridge (a protected structure) and realignment and improvements including traffic lights at Dock Road / Bóthar na Long / Galway Harbour Enterprise Park Access Road junction (adjacent to Harbour Hotel),
- the provision of landscaping and amenity areas, including replacement of the previously permitted amenity strip from the southern seaward boundary of the Galway Harbour Enterprise Park to form an amenity link from the marina to the nautical centre,
- the proposal includes all associated temporary and permanent site development (including service roads/realignment of roads and underground works), landscape works (including public lighting and services) and activities to facilitate the construction of the development.

1.1.3. The planning application was lodged on the 10th January 2014 and was accompanied by:

- A Planning Report.
- An Environmental Impact Statement (including Appendices and Non-Technical Summary) – (two revisions/errata/addendums were submitted to the EIS during the course of the application. One as a result of the additional information request and a second addendum at the oral hearing). And assessment of the EIA under the provisions of the most recent EIA Directive is set out under Section 8 of this supplementary report).

- A Natura Impact Statement - (two revisions/errata/addendums were submitted to the NIS during the course of the application. One as a result of the additional information request and a second addendum at the oral hearing).
- Accompanying drawings.

1.1.4. An Oral Hearing was held between January 13th and January 23rd 2015. An Inspectors report and recommendation was prepared and submitted to the Board on 27th of February 2015.

1.2. Board Direction

The original report was prepared by the Senior Planning Inspector, together with reports prepared by external consultants and submitted to the Board in February 2015. On the basis of this assessment the Senor Planning Inspector recommended a refusal of planning permission for the following reason, which is stated in full below:

> *It is considered that the proposed development would result in the permanent and irreversible loss of c.5.93 hectares of intertidal area comprising of mudflats and sandflats not covered by sea water at low tide. This is an Annex 1 habitat and qualifying interest associated with the Galway Bay complex candidate Special Area of Conservation (site code 000268). One of the conservation objectives of the candidate Special Area of Conservation is to maintain the favourable conservation of the above qualifying interest. It is considered that the proposed development, by permanently removing this habitat will result in this conservation objective for the Natura 2000 site not being met and this will have a negative effect on the integrity of this Natura 2000 site. The proposed development will also result in the stabilisation of the shingle habitat adjacent to Renmore Lough, which is also a qualifying interest of the Galway Bay complex candidate Special Area of Conservation (side code 000268) and this will permanently alter its nature and plant species composition thereby adversely affecting the nature of this qualifying interest. Finally it is considered that the impact of disturbance due to increased shipping traffic during the operational phase on sensitive receptors at the site, namely, marine birds has not been fully or adequately assessed. The proposed development site is located within the Inner Galway Bay SPA (site code 004031) and therefore adverse impacts*

on birds which are qualifying interests of the SPA cannot be ruled out. It is considered therefore On the basis of the information provided with the application, including the Natura Impact Statement, and in light of the assessment carried out above, I am not satisfied that the proposed development individually, or in combination with other plans or projects would not adversely affect the integrity of European sites (site codes 000268 and 004031), in view of the site's Conservation Objectives. In such circumstances the Board is precluded from granting approval. As such and as currently proposed and on the basis of the information provided the Board considers that the development does not meet the requirements for approval under the provisions of Article 6(3) of the Habitats Directive and this therefore contrary to the proper planning and sustainable development of the area.

Furthermore as it is considered that adverse impacts on the qualifying interests of a Natura 2000 Site(s) cannot be ruled out, it is considered that the proposal would materially contravene Policy 4.4 of the Galway City Development Plan 2011 - 2017 which seeks to conserve and promote the enhancement of Internationally (EU) designated sites including Galway Bay Complex cSAC and Galway Bay SPA. The proposed development is therefore contrary to the proper planning and sustainable development of the area.

In considering the proposal under the provisions of Article 6(4) of the Directive, the Board is of the opinion that it has not been adequately demonstrated the development put forward for approval in this instance is the least damaging on the integrity on conservation objectives on Natura 2000 sites and that other alternative solutions including alternative ports may exist which would have lesser impacts on the integrity of Natura 2000 sites and the coherence of the Natura 2000 network while fulfilling the role and policy objectives set out in the National Port Policy for Ireland (2013).

Furthermore it was noted that Galway Port, being designated as a Tier 3, Regional Port in the National Ports Policy (2013) which currently handles c. 1% of the national maritime trade of Ireland, undermines the case for consideration as a project where consent could be considered under the provisions of Article 6(4) for imperative reasons of overriding public interest, having particular regard to EC Guidance on this issue.

The Board held meetings on 25th of June, 2nd of July, 13th August and 3rd September of that year deliberating on the proposed development. In the final meeting the Board focussed its deliberations on the Appropriate Assessment required under 6(3) of the Habitats Directive, and on the possible application of Article 6(4) of the Directive (IROPI) to the case. The Board decided that consent could not be granted under the provisions of Article (6(3) of the Directive and decided to invoke Article 6(4) (IROPI) for further consideration of the proposal.

1.2.1. The Board issued a Direction on September 25th on the basis of a meeting held on September 21st which agreed the wording on the following aspects of the case:

- Board Article 6(3) Statement of 'Appropriate Assessment' in which it accepted and adopted the Appropriate Assessment carried out in the report of the specialist ecological consultant appointed by the Board in respect of the potential effects of the proposed development on the potentially affected European Sites, having regard to the sites' Conservation Objectives. Namely that the integrity of the Galway Bay Complex SAC European site will be affected by the direct and permanent loss of fucoid-dominated reef habitat [1140] and mud and sand flat habitat [1140] and the loss of perennial vegetation of stony banks [1220]. It was also concluded that a significant adverse effect on the integrity of the Inner Galway Bay SPA or the Lough Corrib SAC will not arise in view of the site's conservation objectives. It was also concluded that the proposal will not lead to any negative impacts on the priority habitats associated with the Galway Bay SAC at Lough Atalia and Renmore Lough.
- In relation to alternatives, the Board took a step by step approach to this question as advised in the relevant guidance from the EU Commission. In relation to (a) the do-nothing scenario, the failing to address the existing constraints would make the port unviable and ultimately lead to the demise of the port in the medium to long term and would fail to address the existing Seveso constraints, would impede tourism and the potential to develop a new urban quarter. In relation to (b) alternative locations within Galway Bay, the Board generally agreed with the Inspector that alternative proposals for a

harbour extension within the Bay was not feasible and would result in greater impacts on the conservation objectives of the Galway Bay SAC and Inner Galway Bay SPA. (c) Alternative locations outside Galway Bay. While it is acknowledged that there are several other Irish ports, including Shannon-Foynes which are capable of handling the existing and planned future commercial freight tonnage at Galway Port. However shifting commercial shipping activities away from Galway to Shannon-Foynes would seriously impair the Port of Galway's ability to fulfil its historical role as tier 3 regional port as envisaged in the national ports policy. It may also undermine Galway's development as a Gateway City and designated in the NSS and would inhibit marine /leisure tourism – related expansion within Galway City. (d) Alternative configurations the Board concluded that there was no alternative design available that would deliver on project aims but result in less interference with the sensitive ecology of the area. The Board therefore concluded that there were no feasible alternatives.

- The Boards position in relation to Imperative Reason of Overriding Public Interest was again guided by the EU Commissions Guidance. The Board concluded that the proposal presents an integrated development that enhances the social, economic and recreationBenefits of the port for the wider benefit of the population of Galway and it's regional hinterlands. The enhancement of port facilities also aligns with the European transportation policy's promoting 'short sea shipping' as a cost effective and environmentally sustainable alternative to road transport. The enhancement of the port serving the region will therefore align with European, national and regional policies in favour of balanced spatial and economic development. The port and the tradition of maritime trade is fundamental not just to the economy of Galway but also to its culture and identity. Reference is also made to the existing constraints affecting the existing operations of Galway Port. Failure to address these deficiencies would signal the demise of commercial shipping in the medium to long term. The social and economic benefits of the project are also set out with specific reference to tourism, marine researched and development including offshore renewable energy, urban regeneration and marine leisure opportunities.

- The loss of the qualifying interests of the Galway Bay SAC has been weighed against the imperative reasons for the proposed development which are primarily social and economic in nature. And it is on this basis that the Board decided to explore the possibility of compensatory measures as provided for in Article 6(4) of the Directive.
- The Board therefore, by way of a further information, invited the applicant to submit proposals for compensatory measures to address the adverse impacts on the integrity of the Galway Bay Complex SAC.

2.0 The Correspondence Between the Board and the Applicant

2.1. Board Letter of the 29th of September 2015

2.1.1. The Board, by way of a letter dated 29th of Sept. 2015, invited Galway Harbour Company (GHC) to confirm that it wished the project to be considered for approval under Article 6(4) of the Directive. The Board indicated to the applicant that the compensatory measures should offset the negative effects of the project such that the overall coherence of the Natura 2000 network is maintained.

2.1.2. The Board proposed that the development of proposed compensation measures should be addressed in two phases:

- Phase 1 - Proposals for compensatory measures should be set out by Galway Harbour Company for initial consideration. The applicant is advised to liaise with the NPWS in this regard. It is envisaged that once proposals are received, the Board will seek the views of the NPWS with respect to the acceptability in principle of the emerging proposals. The Board will advise in due course whether the compensation measures should be developed in more detail or otherwise.
- Phase 2 - Pending the outcome of phase one, the applicant will be afforded further time to develop the compensatory measures in more detail leading to the submission of the completed proposal for consideration by the Board.

2.2. Applicants Response

2.2.1. GHC confirmed it wished to proceed, on the premise that the Galway Harbour Extension (GHE) development proposed is:

- The least damaging design alternative
- No other feasible alternative exists that would not adversely affect the integrity of a designated site
- There are Imperative Reasons of Overriding Public Interest including those of a social and economic nature which required the development to proceed.

2.2.2. On that basis GHC commenced the preparation of proposals for compensatory measures so as to adequately address and compensate for the impacts on the integrity of the Galway Bay Complex SAC. The loss/change of habitat that was identified as a result of the proposed GHE was

- 5.93 ha of fucoid-dominated reef complex habitat and mudflat and sandflat intertidal habitat.
- 0.35 of perennial vegetation of stony banks habitat to the east of the GHE at Renmore.
- Legacy impacts arising from the already developed Galway Harbour Enterprise Park (GHEP)

3.0 Compensatory Measures Report - Phase 1

3.1. Introduction

3.1.1. A report entitled 'Proposed Compensatory Measures (Version 2.3B) was submitted to the Board on 9th August 2017'. This report contained information relating to initial preliminary desk-based studies assessment and mapping of potential areas in the Greater Galway Bay area. A number of bilateral and tripartite meetings were held between ABP / NPWS / GHC. The eastern part of Galway Bay was identified as the most suitable for the purposes of potentially providing habitats that can be improved

by way of compensation measures. Three possible locations of interest were identified on the Tawin Peninsula to allow the enhancement of sub-standard habitats. Mweeloon was considered to be the preferred site and was chosen to concentrate the qualitative studies and consultations with property owners to assess if it would be possible to acquire the requisite control of such habitat areas.

3.1.2. The initial GHC proposals as set out in the report entitled Proposed Compensatory Measures (Version 2.3B)' was assessed by the Bord consultant ecologist Mr Daniel Bastreri and without prejudice the Board then issued a letter dated October 13th 2017 inviting the applicant to proceed to Phase 2 of the compensatory measures proposal.

4.0 Compensatory Report Phase 2

4.1. The Phase 2 report was submitted to the Board in April 2019. A separate addendum to the Natura Impact Statement to include the consideration of compensatory measures was submitted to accompany the compensatory measures proposals in April 2019. The information contained therein is considered in section 7 of this supplementary report.

4.2. Compensatory Measures - Overview

4.2.1. To provide the compensatory measures so as to ensure that the overall coherence of the Natura 2000 sites is protected, GHC has contracted the purchase of lands and the control of aquaculture licences at Mweeloon, Tawin, Co Galway approximately 4.7 km due south of Galway Port. These lands are located within the confines of both The Galway Bay Complex SAC and the Inner Galway Bay SPA[1].

4.2.2. According to the Compensatory Report of April 2019, the lands which will be the subject of the compensation measures contain areas of substandard habitat and these lands will be acquired as the compensatory measures for the adverse impact arising on habitats arising from the GHE development. The acquired lands will provide a compensatory ratio of 3:1 for the GHE development and the implementation of same will be commenced prior to the commencement of development as follows:

[1] A small area at the south eastern corner of the boundary of the area earmarked for compensatory measures is excluded from the SPA. This area amounts to c.0.6ha and is contiguous to the roadway leading to Tawin Island near Lackanaloy Peir.

- Purchase of land and control of aquaculture licences will be completed within 3 months of obtaining full planning permission.
- The implementation of management plans will commence within a further 3 months or as the growing season / grazing season allow for the management of these habitats.
- Significant enhancement of Intertidal, Stony Bank and Salt Marsh habitats will be achieved within the first 6 month of management of habitats and within the first 12-18 month of obtaining full planning permission
- The second management season of 12 months will see the bulk of the enhancement achieved.
- Thereafter it will be a matter of monitoring, adjusting and maintaining the habitats in question.
- GHC will maintain, monitor, audit and publish a public annual report on the condition and maintenance of the compensatory habitats.
- The proposed Compensatory Measures Report is accompanied by an addendum to the NIS to include consideration of the compensatory measures proposed.

4.3. Compensatory Measures – Detailed Proposals

4.3.1. The intertidal habitat at Renmore which is likely to be affected by the GHE development was assessed and both the habitat and species environment at Renmore were considered to be inadequate due to the levels of organic enrichment. This was attributed in large part to historic wastewater discharges and organic discharges from the adjacent River Corrib. Likewise, the assessment of the perennial vegetation of stony banks habitat at Renmore was assessed as being of unfavourable / inadequate conservation condition. This is due to the relatively high occurrence and cover of alien plant species *Lactuca tatarica.* While the perennial vegetation of stony banks will not be lost as a result of the GHE, it is likely to suffer less disturbance. This habitat is reliant on disturbance events and on the dynamic coastal process to remove vegetation and allow it to recolonise during more quiescent periods.

4.3.2. Three sections of Tawin Island were examined and the area of Mweeloon in the northern banks of the peninsula was considered to be most suitable, as it is more

sheltered and suffers from less erosion. The perennial vegetation of stony banks habitat surrounds the northern side of the Mweeloon Lagoon – (referred to as Lurgan Island in the documentation). The extent of the perennial vegetation of stony banks habitat to be impacted arising from the GHE is 0.35 ha, the perennial vegetation of stony banks habitat in the study area is 3.053 Ha. Further details for the management proposals for the perennial vegetation of stony banks habitat are set out in section 4.5 of this supplementary report below.

4.4. Management and Implementation Plan for the Mudflats and Sandflats not covered by seawater at low tide

4.4.1. The main objective is to re-establish the structure and natural ranges of the habitats at Mweeloon by introducing compensatory measures that will:

- Re-establish the natural range of each of the habitat's ecological composition
- Re-establish the structure and composition of both habitats
- In the longer term re-establish the habitats dynamics.
- Those holders of aquaculture licences off Lurgan Island, which in the event of the applicant obtaining full planning permission, will surrender the control of the licences.
- The removal of trestles associated with the licenced areas will restore those areas to their prior condition.

4.4.2. The design and management plans for the intertidal habitats will involve:

- *The development of an intertidal management plan.* This plan will involve:
    - A programme to control the colonial non-native marine invertebrate.
    - Removal of oyster trestles, aquaculture structures so as they can support appropriate changes in the composition of benthic communities around them.
    - Cease the construction and cease maintenance of all drainage channels within the lands which are the subject of compensatory measures.
    - Control tractor access

- Eliminate winter and supplementary feeding of livestock on lands adjacent to the intertidal area.
- Prevent construction of sea defences.
- Sensitive repair of existing sea defence wall (in order to prevent the ecology and oceanography of the lagoon area).
- Regular removal of flotsam and jetsam.
- Annual biological surveys of the habitats by GHC ecologists to document any changes in their extent and characterising species.
- Immediate surveys of the habitats will take place after storms.
- Signage will be erected including drawings/maps at appropriate vantage points demonstrating what the project comprises of and what species are contained within each habitat for general education and information purposes.
- GHC will commission and independent audit of surveys on the progress of the management measures to be implemented.
- Post audit modification of plans will be implemented where necessary.

4.4.3. Further specific details are provided with regard to each of the measures to be implemented in the document submitted. Details of the coordination between the various bodies involved in the implementation are also set out, as are the detailed methodologies to be employed.

4.5. Management and Implementation Plan for the Annex I Habitat: perennial vegetation of Stony Banks

4.5.1. Compensatory measures for the perennial vegetation of stony banks habitat at Mweeloon Are also designed to bring about:

- Biological improvement perennial vegetation of stony banks.
  To protect the habitat in the long term until the structure and function of this habitat is well established within the Natura 2000 site. Perennial vegetation on stony banks experience intermittent storm and wave surges, which inundate the banks and clear the banks of vegetation. Where these banks become protected and sheltered, this leads to increased colonisation of terrestrial vegetation, such as heath grassland and grassland communities. This

process is likely to lead to the loss of the perennial vegetation that benefits from the periodical disturbance of the shingle by the sea.

4.5.2. **The Design and management plans for the Mudflats and Sandflats not covered by seawater at low tide – Intertidal Habitats**

- Purchase of lands for the purposes of improving the habitat.
- Instigate organic farming principles. The use of appropriate and organic farming principles will contribute to the improvement of the habitat in terms of species composition and function. The restoration of terrestrial habitat will then follow a natural progression which will be monitored on an annual basis.
- Grazing by horses, cattle, sheep and other grazing stock will be curtailed. Light grazing will be limited to the summer and autumn months only (May 1st to Oct 31st) during appropriate weather conditions only. This will allow optimal growth and flowering of the vegetation.
- Repair stone walls, fences and gates. This action is essential to achieve grazing control on the lands.
- Cease fertilising, by stopping fertilising and supplementary feeding on the lands. The perennial vegetation of stony banks habitat areas will return to a natural state and N and P levels in the soil will return to natural Stony Bank levels.
- At the commencement of the of the management plan, a soil nutrient survey will be undertaken in both the area to be managed and the reference site. The results will be used as a base line for future soil nutrient surveys and hydrochemical modelling studies to track changes in the soil chemistry given the adoption of organic farming principles.
- The prevention of the use of herbicides will remove the risk of any herbicidal damage to plants. Noxious weed infestations will be removed manually.
- Ensure livestock using the lands will be outside the withdrawal period for medicines and anthelmintics. This action will remove the potential for impact on coprophilic or coprophaegous species.

- Prevent the removal of cobbles. This is an essential element for the protection of the Stony Bank habitat.
- Cease the construction and cease maintenance of all drainage channels.
- Control tractor access.
- Eliminate winter and supplementary feeding of livestock on lands adjacent to the intertidal area.
- Prevent construction of sea defences.
- Sensitive repair of existing sea defence wall (in order to prevent the ecology and oceanography of the lagoon area).
- Regular removal of flotsam and jetsam.
- Annual biological surveys of the habitats by GHC ecologists to document any changes in their extent and characterising species.
- Immediate surveys of the habitats will take place after storms.
- Signage will be erected including drawings at appropriate vantage points demonstrating what the project comprises of and what species are contained within each habitat for information and educational purposes.
- GHC will commission and independent audit of surveys on the progress of the management measures to be implemented.
- Post audit modification of plans where necessary.

4.5.3. The report goes on to set out details of the monitoring of the perennial vegetation of stony banks habitat including the cost of implementation management and monitoring of the habitat. The beneficial effects of the management plan on the structure and functioning of the perennial vegetation of stony banks habitat at Mweeloon will include:

- The purchase of the lands where this habitat occurs will ensure the long-term improvement into the future.
- The reduction in stocking densities of farmed animals will reduce poaching of this habitat.
- The construction of walls, wire fences and the erection of gates will control the movement of livestock.

- Adherence to organic farming principles will contribute to habitat improvement and species composition and function.
- Cessation of the use of fertilizers will contribute to the improvement of this habitat and species composition and function.
- The elimination of winter feeding at Stony Bank habitats will contribute to habitat improvement on species composition and function.
- Restriction of tractor access will prevent damage to this habitat.
- The prevention and removal of Stony Bank habitat material for use in construction is an essential part of protecting this habitat into the future.

4.6. Compliance with EU Guidance Criteria

4.6.1. Section 13 of the Report goes on to assess the intertidal management plan and the management plan for perennial vegetation of stony banks habitat against each of the seven criteria set out in the EU Guidance Document (EU 2018). Namely:

- *Targeted Compensation*

  For the intertidal habitats, the proposed compensation plan includes for the reduction of tractor movements, the control of non-native *Didemnum* and the reduction in aquaculture all comply with targeted compensation practices.

  In the case of the perennial vegetation of stony banks habitat compensatory measures will include the restriction to uncontrolled grazing by cattle in accessing the pasture The future quality of the habitat will be ensured by controlling the levels of grazing and vehicular access.

- *Effective Compensation*

  For intertidal habitats the proposed plan is considered to be very feasible given that the mud/sand flat is exposed at low water tide and fucuoid-dominated reef complex habitat at Mweeloon is already present. Given that the land and aquaculture licenses will be controlled, a high level of success is insured. The reduction in tractor movements on the shore is an effective measure to reduce the crushing of algae, lichen and invertebrate organisms on the shore while the control of non-native invasive *Didemnum* populations

and reduction of aquaculture activities will help to restore the structure and function of this habitat. This is considered to be highly effective plan.

The targeted compensation measures referred to above will ensure that the compensatory measures are effective. Given that the land in which the habitat is located is to be purchased to implement the measures, a high level of success is ensured.

- *Technical Feasibility*

  For perennial vegetation of stony banks habitat and intertidal habitats the management plans to be implemented are considered to be technically feasible.

- *Extent of Compensation*

  In the case of the intertidal habitats a total of 5.93 ha of mud/Sand flat exposed at low water and fucoid-dominated reef will be lost with the GHE. The compensatory measures at Mweeloon extends over 27.239.ha, 17.79 ha of which is specifically dedicated for the 5.93 ha loss of intertidal habitat.

  In the case of the Stony Banks, a total of 0.35 ha will be affected within the GHE. The compensatory measures at Mweeloon extends over 3.053ha, significantly in excess of that to be removed.

- *Location of the Compensatory Measures*

  The guidelines suggest that locating compensation within are nearby the Natura 2000 sites concerned where suitable conditions for the measures to be successful is the most preferred option. As both the intertidal habitats and the Stony Banks at Mweeloon site lie within the boundary of the Galway Bay cSAC. The proposal fully satisfies this criteria.

- *Timing of Compensatory Measures*

  Once a full grant of planning permission is obtained, the measures will be put in place within 6 months for both the intertidal habitats and the Stony Bank

habitat. Enhancement measures will be commenced on the subject site prior to commencement works at Renmore.

- *Long Term Implementation*

  There will be a sound legal and financial basis for the long-term implementation of the measures as required under EU guidance. The proposed improvement of both habitats will be brought about by measures outlined above. The compensatory measures will result in the improvement in the functioning of the mosaic of intertidal habitats as well as restoring the biological communities within the intertidal areas. In the case of the Stony Banks, the compensatory plan which includes reduction in stocking densities, adherence to organic farming practices, restricting access vehicular access and extensive surveying and monitoring will ensure long-term success. In the case of the development of the compensatory management plans for both habitats there has been close coordination and cooperation between the various stakeholders and this is another requirement for long time implementation in accordance with the Guidelines.

4.7. Compensatory Measures for the Galway Harbour Enterprise Park

4.7.1. The habitats affected by the development of the GHEP were as follows:

- 8.58ha of reef habitat and Mudflats and Sandflat covered by seawater at low tide.
- 0.28 ha of perennial vegetation of Stony Banks
- 7.39 ha of Salt Marsh complex of which
  - 2.21 ha was deemed with considerable certainty to be Atlantic Salt Marsh and Mediterranean Salt Marsh referred to collectively as ‘definite’ Salt Marsh area.
  - 5.18 was stated as ‘Transitional’ Salt Marsh as it was calculated as same on a precautionary basis.

4.7.2. The pre-development habitat was derived on the basis of various historical maps and photographs of the area.

4.7.3. The first two habitats identified as have being lost (ie 8.58ha of fucoid-dominated reef habitat and mud and sand habitat 0.28ha of perennial vegetation of Stony Banks), have already been the subject of compensatory measures at Mweeloon, Tawin Island. The compensatory measures proposed at Mweeloon relate to an area of land which is greater than the habitat to be lost under the GHEP development and the proposed GHE Development.

4.7.4. The compensatory measures relating to the area of Salt Marsh lost is set out below. While it is not possible to be definitive as to the nature of the salt marsh that was lost under the GHEP development, it is likely that the Salt Marsh to the south of the Railway at Renmore was dominated by low growing Atlantic Salt Marsh The extent of compensatory Salt Marsh Area at Mweeloon amounts to 11.715 ha. It generally occurs as a narrow fringe (10m-20m in width) located between dry meadow vegetation on shallow soil and intertidal area. Currently most of the visible damage to the Salt marsh occurs along the eastern margins of the survey are due to the poaching of soil and vehicular traffic. A report commission by the NPWS (2006) noted that areas of Salt Marsh Habitat at Tawin Island was described as being 'unfavourable / inadequate'.

4.7.5. Of the 11.715ha of identified Salt Marsh enhancement area, 10.194 ha will be management for the purposes of monitored enhancement and this will be referenced against 1.521ha of Marsh land will be continued to be grazed as present for comparison purposes, in order to assess the success or otherwise of the enhancement measures.

4.7.6. The design and management plans for the Salt Marshes will involve:

- Purchase of lands for the purposes of improving the habitat.
- Instigate organic farming principles. The use of appropriate and organic farming principles will contribute to the improvement of the habitat in terms of species composition and function. The restoration of terrestrial habitat will then follow a natural progression which will be monitored on an annual basis.

- Grazing by horses, cattle, sheep and other grazing stock will be curtailed. Light grazing will be limited to the summer and autumn months only (May 1st to Oct 31st) during appropriate weather conditions only. This will allow optimal growth and flowering of the vegetation.
- Repair stone walls, fences and gates. This action is essential to achieve grazing control on the lands.
- Cease fertilising, by stopping fertilising and supplementary feeding on the lands, salt marsh habitat areas will return to a natural state and N and P levels in the soil will return to natural levels.
- At the commencement of the of the management plan a soil nutrient survey will be undertaken in both the area to be managed and the reference site. The results will be used as a base line for future soil nutrient surveys and hydrochemical modelling studies to track changes in the soil chemistry given the adoption of organic farming principles.
- The prevention of the use of herbicides will remove the risk of any herbicidal damage to plants. Noxious weed infestations will be removed manually.
- Ensure livestock using the lands will be outside the withdrawal period for medicines and anthelmintics. This action will remove the potential for impact on coprophilic or coprophaegous species.
- Prevent the removal of cobbles. This is an essential element for the protection of the salt marsh.
- Cease the construction and cease maintenance of all drainage channels.
- Control tractor access.
- No shooting will be permitted over the lands.
- Eliminate winter and supplementary feeding of livestock on lands adjacent to the intertidal area.
- Prevent construction of sea defences.
- Sensitive repair of existing sea defence wall in order to protect the ecology and oceanography of the lagoon area.
- Regular removal of flotsam and jetsam.
- Annual biological surveys of the habitats by GHC ecologists to document any changes in their extent and characterising species.

- Immediate surveys of the habitats will take place after storms.
- Where Cordgrass, an invasive weed develops, a control programme will be initiated.
- Signage will be erected including drawings/maps at appropriate vantage points demonstrating what the project comprises of and what species are contained within each habitat for information and educational purposes.
- GHC will commission and independent audit of surveys on the progress of the management measures to be implemented.
- Post audit modification of plans where necessary.

4.7.7. The report goes on to set out details of the monitoring of the Salt Marsh including the cost of implementation management and monitoring of the habitat. The beneficial effects of the management plan on the structure and functioning of the Salt Marsh habitat at Mweeloon will include:

- The purchase of the lands where this habitat occurs will ensure the long-term improvement into the future.
- The carrying out of a soil nutrient survey.
- The construction of walls, wire fences and the erection of gates will control the movement of stock.
- Collect and dispose of flotsam and jetsam and other litter
- Surveys after extreme storm events including undertaking any necessary repairs.
- Fortnightly monitoring of stocking levels and associated poaching.
- Carry out annual ecological monitoring surveys and associated reporting.
- Modify the management plan and
- Prepare and erect signage

4.8. Compliance with EU Criteria

4.8.1. Section 15.8 of the Report goes on to assess Salt Marsh management plan against each of the seven criteria set out in the EU Guidance Document on Compensatory Measures (EU 2018)[2]. Namely:

- *Targeted Compensation*

  Areas of Salt Marsh Habitat have been subject to uncontrolled grazing by cattle and vehicle access in the past. The future quality of the habitat will be ensured by controlling the levels of grazing and curtailing vehicle access and the implementation of the Salt Marsh Management Plan proposed.

- *Effective Compensation*

  Given that the land in which the saltmarsh habitat occurs will be purchased, a high level of success is ensured. It is therefore regarded as a highly effective compensation measure. Control of grazing levels and the erection of walls and gates will reduce the impact of agricultural activities on this habitat. Furthermore, the implementation of annual surveys an independent audit will provide a highly significant database for monitoring and confirmation of the enhancement achieved.

- *Technical Feasibility*

  The Salt Marsh management plans to be implemented are considered to be technically feasible.

- *Extent of Compensation*

  In the case of the Salt Marsh an estimated area of 7.39ha was lost with the construction of the GHEP. The compensatory measures at Mweeloon extends to 11.715 ha over 4 ha larger than that lost at Renmore.

[2] The GHEP (developed in the 1990's) was located on lands which included salt marsh. The current port development before the Board does not involve the removal of salt marsh. For this reason, the salt marsh compensatory measures are assessed against the EU criteria separately. Any compensatory measures associated with the loss of intertidal areas and perennial vegetation of stony banks during the construction of the GHEP will be provided for as part of the overall compensatory measures at Tawin Island. The compensatory measures associated with the intertidal areas and the perennial vegetation of stony banks have already been assessed against EU Criteria under section 4.6 above.

In the case of the Stony Banks, a total of 0.35 ha will be lost with the GHE. The compensatory measures at Mweeloon extends over 3.053ha, significantly in excess of that to be removed.

- *Location of the Compensatory Measures*

  The guidelines suggest that locating compensation within and nearby the Natura 2000 sites adversely affected where suitable conditions for the measures to be successful is the most preferred option. The Salt Marsh site lie within the boundary of the Inner Galway Bay SAC, and as such the proposal fully satisfies this criteria.

- *Timing of Compensatory Measures*

  Once a full grant of planning permission is obtained, the measures will be put in place within 3 months hence there will be no time lag.

- *Long Term Implementation*

  There will be a sound legal and financial basis for the long-term implementation of the measures as required under EU guidance. The proposed improvement of the salt marsh habitat will be monitored using protocols devised by the NPWS. Monitoring involves the recording of vegetation composition and cover at several points or stocks within the area of habitat. Additional important data such as height the vegetation flowering and cover of bare soil are also recorded. From these data the condition of the habitat can be assessed, in the case of saltmarsh areas, the presence of more than 10% of bare soil outside the creek areas may indicate the deterioration of the habitat due to damaging operations such as overgrazing, poaching and vehicle access. This restoration will be significantly achieved within the first managed grazing season. Vegetation height and flowering are also important parameters to monitor the presence of a range of vegetation heights and this is a desirable feature of saltmarsh habitats. In the case of the development of the compensatory management plans there has been close

coordination and cooperation between the various stakeholders, and this is another requirement for long time implementation in accordance with the Guidelines.

4.9. Additional Environmental Benefits

4.9.1. The final section of the report sets out additional environmental benefits which will be derived from the proposed compensatory measures.

4.9.2. The fact that there is 19.48 hectares of priority Lagoonal habitat which should be enclosed by the lands contracted to be purchased at the Mweeloon site is of significant additional ecological and conservation interest and adds considerably to the merits of the proposed compensatory proposals. In addition, the priority lagoon habitat brings the total proposed compensation measures to an area of 73.233 hectares. The estimated extent of the 265.5 hectares of the Lagoonal habitat at Tawin is of considerably high national interest and statistically, it significantly adds to the overall area of habitat on a national scale by almost 11%.

4.9.3. Furthermore, the proposed compensation measures will result in the protection of the limestone pavement and *Salicornia* both of which EU Annex 1 habitats. The fact that these habitats occur within the site gives further additional high conservation status to the proposed area.

4.9.4. Mweeloon also supports a population of two rare plant species. The shingle areas contain populations of *Yellow Horned Poppy* while the salt marsh areas support populations of *Sea Purslane*. Both these species have a very restricted distribution in Ireland and are particularly rear along the west Coast of Ireland.

4.9.5. The compensatory proposals also provide an opportunity to the develop the Mweeloon site as a nature reserve and specifically as a marine reserve which, it is contended, is fully in accordance with The EU Guidance document on Article 6 (EU, 2018). Such a designation is likely to boost the abundance, diversity and size of the marine species within the confines of the reserve.

4.10. Overall Conclusions on Compensatory Measures

4.10.1. It is beyond reasonable scientific doubt, according to the Compensatory Report submitted, that the compensation measures to be implemented will be considerably beneficial to the targeted qualifying interests of the Inner Galway Bay SAC. The compensatory measures proposed will be sufficient to counteract the previously indicated losses for the SAC resulting from the proposed development or the implementation of the GHE. A higher proportion of land will benefit from the measures proposed compared with that lost as a result of works undertaken or proposed to be undertaken.

4.10.2. A number of Annexes are attached to the Compensatory Measures Report. These are set out below:

- Appendix 1 – Details of Correspondence with An Bord Pleanála (29th/09/2015 & 13th/10/2017)
- Appendix 2 – A Copy of the European Commission Document entitled "Managing Natura 2000 sites – The Provisions of Article 6 of the Habitats Directive 92/43/EEC" (21/11/2018).
- Appendix 3 – Conservation Objectives for Galway Bay Complex cSAC (000268).
- Appendix 4 – Intertidal Habitat Assessment at Renmore, Galway Bay June 2018 – Report prepared by Dr. Brendan O' Connor, AQUAFACT.
- Appendix 5 – a Survey of Shingle Vegetation at Renmore, Co Galway, September 2017. Report prepared by Dr. John Conaghan, Enviroscope Environmental Consultancy.
- Appendix 6 – Relevant EU Precedents in relation Article 6(4) Projects.
- Appendix 7 – Qualitative Surveys at Tawin by AQUAFACT
- Appendix 8 – Marine Studies at Mweeloon, Galway Bay – By AQUAFACT
- Appendix 9 – Management Options for *Didemnum vexillum*
- Appendix 10 - A Survey of Shingle Vegetation at Mweeloon by Dr. John Conaghan.

- Appendix 11- Habitat Map showing GHEP Lands pre-1990.
- Appendix 12 – A Survey of Salt Marsh Vegetation at Renmore, Co. Galway September 2017. Report prepared by Dr. John Conaghan, Enviroscopoe Environmental Consultancy.
- Appendix 13 – Survey of Salt Marsh Vegetation at Mweeloon, Co Galway.
- Appendix 14 – Photographic Surveys of Gate and Wall Repair, Existing Sea Defence Wall and Ground Damage.
- Appendix 15 - Tawin – Extract from NPWS Salt Marsh Monitoring Programme Project 2006 as referenced by John Conaghan.
- Appendix 16 – Conversation Objectives for Additional Habitats contained in Compensatory Area.
- Appendix 17 – Outline of Grazing Management at Mweeloon by John Conaghan.
- Appendix No 18 – Proposed Monitoring Plan for Intertidal Habitats.
- Appendix No. 19 – Proposed Monitoring for Stony Bank and Salt Marsh Habitat / Vegetation at Mweeloon.
- Appendix No.20 – Confirmation Re: Land and Aquaculture Licence Purchase Agreements prepared by Blake & Kenny Solicitors
- Appendix 21 – Compensatory Report Drawings.

5.0 Initial Assessment of the Compensatory Measures Report by An Bord Pleanála.

5.1.1. On receiving the Compensatory Measures Report on behalf of GHC, the Board requested the advice of Mr. Daniel Bastreri, Consultant Ecologist on the compensatory measures being proposed. Mr Bastreri submitted a report on the 11 September 2019. After reviewing the report and associated appendices Mr. Bastreri concluded that the proposed compensatory measures have the potential to improve the ecological status of the perennial vegetation of stony banks habitat and the Mudflats and Sandflats not covered by sea water at low tide (Intertidal habitats) selected at Mweeloon. by the reducing disturbance and physical damage to habitats, reducing the discharges of effluents from agriculture and removing man-made debris (flotsam and jetsam), and anthropogenic pressures in these habitats will decrease. The removal of aquaculture practice in the intertidal areas will significantly reduce the input of organic matter due to the exclusion of oysters an associated farming and the physical damage on disturbance to these habitats. The removal of *Didemnum* will also be a significant step in the recovery the intertidal habitats.

5.1.2. However, concerns were expressed with regard to the proposed monitoring programme to be implemented, particularly in respect to the intertidal habitats. While a significant amount of data has been produced for these areas of Mudflats and Sandflats not covered by seawater at low tide, the monitoring programme is not coupled with measurable outcomes. Furthermore, Mr Bastreri considered the methodology to be employed for benthic infauna data to be flawed. There is concern that in its current form the monitoring programme may not provide an effective method to measure the success of the compensatory measures, should this be required.

5.2. Request for Further Information

5.2.1. The report concluded that further clarification on these issues should be sought, and on October 7th 2019, the Board requested clarification of additional information in relation to the following:

(a) There are specific concerns that the monitoring programme to be employed may not provide an effective method to measure the success of the compensatory measures. Detailed monitoring is required to test the success of the compensatory measures. It is considered that there are no clear specific objectives for the monitoring programme which set out measurable outcomes on which the success or otherwise of the proposed compensatory measures can be ascertained. The compensatory measures need to be compared against a set of established indicators and thresholds. Please provide an appropriate methodology to address this issue.

(b) The applicant is requested to demonstrate that the disturbance of the perennial stony bank vegetation [1220] at Renmore is only attributed to tidal disturbances, and that no disturbance that can be attributed to trampling or shingle extraction. The Board consider that disturbances to the Stony Bank could be attributed to trampling due to anthropogenic interference with recreational walker and dog walkers etc.

(c) The Applicant is requested to comment on the hypothesis that the expansion of the harbour under the current application will lead to increased shelter conditions which may in turn, improve the conditions of the perennial vegetation of stony banks at Renmore.

(d) The results of the intertidal survey at Renmore are presented in Appendix 4 of the Main Report. It states that the surveys were undertaken between the 28th and 29th October 2015. The previous version of this Appendix issued in February 2016 states that the surveys were carried out in January 2016. Please clarify the survey dates.

(e) Please provide data of sediment chemistry to support the conclusion that the difference between groups A, B and C of infaunal macrobenthos identified in Renmore using cluster analysis techniques are due to high organic loads. Please discuss this in more detail, taking into consideration other natural and anthropogenic

variables that may explain these differences, and the evidence available to support any hypotheses on the distribution of infaunal benthic species and abundance in Renmore. Further data is required to support the conclusions reached.

(f) Please provide full results of particle size analysis which were undertaken as part of the survey but are not presented in the report.

(g) The report also claims that during the many decades in which untreated raw sewage discharged into the River Corrib and / or via a pipe to the south of Nimmo's Peir, that this has given rise to sediment with low levels of oxygen, high levels of sedimentary hydrogen sulphide and therefore reduced numbers of infaunal invertebrates. However, the survey results indicate the opposite. Sites closer to the River Corrib have the highest number of infaunal invertebrates. Please comment further on this, especially in relation to available data on hydrogen sulphide, and the influence of other variables that may determine distribution of infaunal macrobenthos, particularly particle size of sediment.

(h) Please comment upon and explain the rationale for picking the location of sampling spots at Mweeloon as indicated on figure 3.2 of Appendix 8 of the Main Compensatory Measures Report.

(i) Concern is expressed that in its current form, the sampling strategy is not specific enough for the establishment of a baseline environment on which the success of future compensatory measures can be assessed. Please provide further details of a sampling strategy which will provide comprehensive data on a baseline environment on which before and after scenarios can be established, and how these will be compared.

(j) The Board have concerns that the monitoring programme for the intertidal habitats has some significant methodological errors, such as samples taken at different times

of the year, with 5 replicas taken in Tawin Island (correct for statistical analysis), and only provide only two samples provided at Renmore (not correct). The results of the two samples are compared for analytical purposes in the report. The Board recommend that any inferred results are based on more consistent and robust data set.

5.3. Further Information Response

5.3.1. A response to the further information request was received on behalf of GHC on 19th of December 2019. The report was prepared by Tobin Engineers and AQUAFACT Consultants. The main points set out in the further information response is set out below:

5.3.2. In relation to the first point of clarification concerning the detailed methodology to be undertaken in the monitoring to test the success of the compensatory measures, the response set out a methodological approach for both the marine elements and the terrestrial elements of the compensatory measures. It involves setting out the following objectives in respect of the marine elements:

- The control of the invasive, non-native tunicates species of *Didemnum* in Mweeloon Bay.
- The removal of oyster trestles and cessation of tractor movements from the reference area.
- The commencement of organic farming practices including the reduction of livestock densities.

5.3.3. In relation to terrestrial habitats the objectives include:

- The control / eradication of the non-native vascular plant species *Luctuca Tatarica* on the stony bank area at Remore.
- To promote improved structure and flowering / seed production of stony bank vegetation at Mweeloon.
- To promote the recovery of salt marsh vegetation at Mweeloon in and area degraded by cattle poaching and tractor movement in the recent past.
- To promote improved structure and flowering / seed production of salt-marsh vegetation at Mweeloon.

5.3.4. In relation to each of the above objectives the response set out details of a systematic/formulaic methodology setting out the method to be employed, the indicators to be recorded, the thresholds/targets to be achieved and the overall management goals to be achieved by the objective.

5.3.5. With regard to the second issue raised by the Board where the applicant was requested to demonstrate that the disturbance of the perennial vegetation of stony banks at Renmore is only attributed to tidal disturbances and cannot in any way be attributed to trampling or shingle extraction, it is stated that on the basis of observational surveys undertaken, it was concluded that there *'is a low incidence of habitat disturbance due to recreational walking/dog walking'*. Of the recreational and dog walkers that do visit the area most visitors walk on the sandy strand area and not the Stony Bank. Disturbance of the shingle habitat due to sporadic storm events has, it is argued, had a much more significant effect on the structure and vegetation composition of the shingle bank at Renmore than recreational walking/dog waking. The presence of the new harbour will lead to changes in the hydrodynamic regime at local level, sheltering the stony bank that forms the south boundary of Renmore Lough. This in turn will prevent storm and wave surges from accessing the stony banks, leading to increased colonisation of terrestrial vegetation, such as heath grassland and grassland communities**.** This process is likely to lead to the loss of the perennial vegetation that benefits from the periodical disturbance of the shingle by the sea.

5.3.6. As per point 3 of the additional information request, where the applicant was requested to comment on the hypothesis that the expansion of the harbour will lead to increased shelter conditions which may affect the dynamic conditions of the existing perennial vegetation of stony banks at Renmore, the applicant stated that the shelter provided by the GHE will result in a considerable reduction in the dynamic character of the stony bank at this location. Where storms blow in a south-south easterly direction (a less frequent occurrence), this could lead to a significant disturbance of the shingle habitat. This will over time result in a gradual reduction in the amount of stony shingle habitat and an increase in the amount of more vegetated, grass-dominated shingle. The shingle habitat at Renmore will be closely monitored.

5.3.7. In respect of the results intertidal survey (point no.4 of clarification request), it is confirmed that the intertidal surveys were carried out on October 28th and 29th 2015 and the samples were sorted and identified between 12th November to 17th December 2015. The statistical analysis was carried out in January and the report was written in February 2016.

5.3.8. Point 5 of the further information request required the applicant to provide further data of the sediment chemistry to support the conclusion in respect of the differences in the infaunal macrobenthos identified in Renmore using cluster analysis techniques are due to high organic loads. Details of the analysis of the sediment chemistry is set out. The response indicates that there is sufficient data available on the organic carbon content of the sediments at Renmore to show that the western part of the study area, closest to the Corrib River is the area where the highest percentages of organic carbon were recorded. Conversely the eastern area of the study site had the lowest levels of organic carbon and that is the variable that is controlling the distribution of the macrofaunal communities in the area.

5.3.9. Points 6 of the further information requested that the applicant provide full results of the particle size analysis. The methodology used to generate the grain size data is contained in Appendix 3 of the submission. Details of the grain size distribution (on the basis of Folk's classification) is set out in a graph in the main body of the response.

5.3.10. Point no. 7 of the further information request asked the applicant to comment on some perceived discrepancies in the original report which suggests that untreated raw sewage discharged into the River Corrib or via a pipe to the south of Nimmo's Pier has given rise to sediment with low levels of oxygen and therefore reduced numbers of infaunal invertebrates, yet the survey results indicate the opposite. In response further details of the benthic surveys are set out, and it is concluded that the percentages of the organic matter in the sediments, the numbers and types of infaunal taxa and their tolerance of the sensitivity to organic enrichment are the main reasons for the relative distributions of the macrofaunal communities at Renmore.

5.3.11. Point 8 of the further information requested that the applicant explain and comment upon the rationale for picking the location of sampling spots at Mweeloon. In response the applicant states that initially, three sections of Tawin Island were

examined for comparative purposes. Both the western end and the southern shore of Tawin were deemed unsuitable due to the level of exposure to the elements. For this reason, the area of Mweeloon Lagoon was selected. A total of 66 transects were surveyed at Mweeloon on a spacing of 100m intervals. This density and tight spatial separation provide a high level of detail of the variability in types of shoreline and water bodies within the compensatory measures area thereby giving a clear understanding of this selected area.

5.3.12. Point 9 of the further information request expressed concern that the sampling strategy used is not specific enough for the establishment of a baseline environment on which the success of any future compensatory measures can be assessed. A detailed sampling strategy is set out in response to Item 1 of the additional information requested and also in Appendices 3.1 and 3.2 attached. The sampling strategy to be adopted allows for pre-survey and post survey comparisons to be undertaken.

5.3.13. The final item raised in the further request for information related to concerns that the monitoring programme for the inter-tidal habitats has some significant methodological errors and that any inferred results from the surveys to be undertaken need to be based on a more consistent and robust data set. In response the applicant makes reference to the systematic methodological approach set out in item one of the response which is detailed in full in Appendix 3 of the submission. This includes:

- Annual programmes to control *Didemnum.*
- A five-year monitoring plan for the oyster fallow site study.
- Monitoring of the effects arising from proposed organic farming practices.

5.3.14. With regard to the seasonality of sampling, it is argued that with the exception of the annual reproductive cycle, intertidal and subtidal benthic fauna do not respond to seasons. The infaunal taxa and density typically reflect the extent of anthropogenic disturbance and violent storms etc. Thus, it is argued that it is scientifically acceptable to take benthic samples at different times of the year for comparative purposes.

5.3.15. Full details of the methodologies to be employed over the timescales envisaged are contained in Appendix 3 of the submission.

A total of 5 Appendices are attached to the submission.

- Appendix 1 contains the CV's of the Authors of the response.
- Appendix 2 contains Maps of the *Didemnum* Management Control Area and the Additional Intertidal Reference Area.
- Appendix 3 Contains details of the intertidal sampling Methodology and the methodology and monitoring of the Salt Marsh and Stony Bank Vegetation at Mweeloon and Renmore.
- Appendix No.4 Contains an Extract of Chapter 8 – 'Water' of the EIS which relates specifically to Wave Climate Prediction.
- Appendix 5 Contains details of the surveys of Visitor Numbers / Observations at Renmore, December 2019.

5.4. Further Report Prepared by Consultant Ecologist on Behalf of the Board

5.4.1. In general Mr. Bastreri (Consultant Ecologist on behalf of the Board) states that the issues raised in the questions have been addressed by the responses provided by the applicant. These responses clarify the doubts and concerns raised and provide further details on the proposed monitoring programme to validate any predictions made in relation to the outcomes of the compensatory measures proposed.

5.4.2. The monitoring programme to be undertaken sets out clear objectives with appropriate targets and indicators. The methodologies proposed for monitoring the perennial vegetation of stony banks, salt marsh and intertidal habitats, are in Mr Bastreri's opinion, fit for purpose.

5.4.3. In relation to the inter-tidal benthic communities (question 10), the methodology proposed represents a significant improvement over that originally put forward, however further modifications are required, according to Mr. Bastreri. These modifications include the use of replicate benthos samples, taken consistently at the same time of the year to provide enough data for enabling robust and meaningful statistical analysis.

5.5. In conclusion Mr. Bastreri states that most of the issues have been addressed and above all, the elements of the monitoring programme have been addressed in terms of set out clear and unambiguous objectives with appropriate targets and indicators

which are fit for purpose. The only exception to this is the monitoring for intertidal benthic communities, which must according to the consultant, be carried out at the same time of the year on an annual basis, or at the very least during the same season. In the case where a compensatory management plan will be implemented, details of this can be agreed.

6.0 Comments from the Department of Culture Heritage and the Gaeltacht

6.1.1. A response to the further Information received regarding Compensatory Measures from GHC was received from the Department on April 8th 2020. The main points contained in this correspondence are set out below:

6.1.2. With regard to underwater archaeology, the Department notes the response received which addresses the natural heritage queries as requested by our colleagues in the National Parks and Wildlife Service section of the Department. The archaeological requirements as issued by the Department on 27 August 2019 remain unchanged and the Department respectfully requests confirmation that the underwater cultural heritage recommendations as detailed will be taken on board as conditions of any grant of permission for the proposed development of Galway Harbour.

6.1.3. In relation to Nature Conservation, it is noted that the Board's external consultant agreed with most (if not all) of the Departments earlier recommendations. The Department's observations were intended to inform the Board's views and subsequently, the applicant's proposed compensatory measures, but none were forwarded to the applicant (even those the Board's advisor agreed with) and so are not addressed in the applicant's response and proposed compensatory measures. These measures will, in due course, come to this Department and the Minister for Culture, Heritage and the Gaeltacht for agreement. The Department requests that the Board clarify for this Department the status of the recommendations it made in its August 2019 submissions and whether and when they will be forwarded to the applicant for consideration.

6.1.4. The Department would also welcome clarification as to the final form of documentation that is to be submitted and agreed with the applicant in respect of the proposed compensatory measures. This Department would welcome the completion

of one complete and coherent management plan that incorporates all measures with associated targets, methods and implementation plan, monitoring programmes etc. The Department would be happy to have further discussions with the Board to expedite these matters.

6.1.5. The submission then goes on to comment on the report prepared by the Boards external consultant.

- With regard to the vegetated shingle of Stony Banks the Department agree that there is some uncertainty regarding the degree of shelter that will result from the expansion of the harbour. However, it is not accepted that natural disturbance by storms is detrimental to vegetated shingle of stony banks.
- The Department welcomes and concurs with the recommendation to thoroughly investigate the potential impacts of the removal or refurbishment of coastal protection structure at Tawin. However, the on-going issue of shingle removal will exacerbate the destabilisation of the shingle ridge and this has not been addressed. Preventing shingle removal on its own will not be adequate on its own to protect the habitat or preserve the ecosystem functions as a barrier between the open sea and the lagoon.
- The Department emphasizes that motorized vehicles should not be used to control flotsam and jetsam in order to protect the natural habitats.
- The Department would welcome the opportunity to discuss in more detail the appropriate grazing regime and stocking density of livestock.
- While some additional fencing may be beneficial to the habitats that are most sensitive to grazing, the number of gates to be maintained should be based on the proposed management of the site in view of its conservation objectives, and the grazing regime necessary to support those, rather than the number of gates that were put in place during prior management arrangements.
- The Department welcomes the recommendation to integrate monitoring practices with the existing legislative framework relating to [1220] Perennial Vegetation of Stony Banks and [1330] Atlantic Salt Meadows, and that this

framework incudes both the Habitats Directive and the Water Framework Directive.

- The Department also supports the observation that setting objectives and targets against which change in habitat condition can be measured is essential. The Department would welcome an opportunity to contribute to a monitoring plan to achieve these requirements.
- The Department are generally satisfied with the intertidal management plan where the intertidal reserve area will be either cleared or will be preserved free of aquaculture. The Department would however welcome clarification as to the feasibility of the applicant being able to secure the prohibition of aquaculture activities in this area in perpetuity.

7.0 Appropriate Assessment

Addendum to Natura Impact Statement - Compensatory Measures

7.1.1. The Compensatory Measures Report was also accompanied by an Addendum to the Natura Impact Statement to include the Consideration of Compensatory Measures. This addendum to the original NIS (and its subsequent amendments) has arisen on the basis that The Board concluded that the Galway Harbour Extension could not be considered under Article 6(3) of the EU Habitats Directive, and can only proceed under the requirements of Article 6(4) of the Directive, which includes the requirement to provide compensatory measures. The addendum to the NIS considers the compensatory measures proposed in the context of the requirements of the Habitats Directive.

7.1.2. The Addendum to the NIS set out details of the Intertidal Management Plan, Stony Bank /Terrestrial Management Plans and the provision of terrestrial reference areas which will allow the comparative assessment on the proposed compensatory measures. It also sets out the compensatory measures proposed for the GHE extension carried out in the mid-1990's. It states that the targeted enhancement measures are technically feasible and will provide a compensation ratio of 3:1 for the habitat lost under the GHE development. The report sets out details of the appropriate assessment process as well as details of the receiving environment of Tawin Island and the Mweeloon Lagoonal area where the Compensatory Measures

are proposed. The NIS goes on to describe in detail the compensation measures proposed for the marine and terrestrial habitats including the various measures proposed in the Management Plans for the various habitats.

7.1.3. Natura 2000 sites within 15 km of Mweeloon are identified and the qualifying interests and Species of Conservation Interest are listed. The assessment of likely effects for the cSAC Marine and Terrestrial Habitats and the Species of Conservation Interest for the Inner Galway SPA are set out in the document. The potential impacts from the proposed works both alone and with other activities and development on the wider area (cumulative effects) are assessed and it is concluded that the proposal will not have any significant negative effects on either the Galway Bay cSAC or the Inner Galway Bay SPA Natura 2000 Sites. In fact, it is argued that the proposed works will have a significant positive effect and will be beneficial o to the target habitats over the long term.

7.1.4. For the purposes of completeness, this report includes an independent appropriate assessment of the compensatory measures to be carried out at Tawin Island.

7.1.5. The compensatory measures proposed and which are outlined in detail above in Section 4 of this report have been designed to improve targeted habitats in order to compensate for the loss of habitats which form qualifying interests as the Galway Bay cSAC. The sole and intended purpose of the compensatory measures is to have a positive effect on the Galway Bay cSAC.

7.1.6. The targeted measures for the intertidal area include and on-going programme to control colonial non-native species including *Didermnum vexillum* at the existing oyster farms in accordance with a detailed methodology. Acetic acid will also be used to control *Didemnum*. It is also proposed to cease aquaculture with the removal of oyster trestles on a permanent basis. While the report from the Department of Culture Heritage and the Gaeltacht, expressed concerns that the ceasing of the aquaculture on the lands may not be in perpetuity, any decision on the issuing of licenses in this area will be will be under the auspices and control of the GHC, and this is sufficient to ensure the success of the measure. Other measures proposed as part of the plan include ceasing the construction of drainage channels, controlling access by vehicles, eliminating winter feeding and control of livestock numbers, controlling flotsam and jetsam and sensitive repairs, where appropriate, of sea wall

defenses. The plan will also incorporate continuous monitoring, surveys and reviews of actions to be undertaken.

7.1.7. Both the stony bank management plan and the salt marsh management plan, will necessitate the purchase of lands so as to ensure that all measures can be properly implemented, controlled and monitored. The implementation of organic farming principles will contribute to the natural improvement of the habitat. The organic farming principles will include the prohibition of adding fertilizer to the soil, the prevention of the use of herbicides on the lands and to ensure that the any animals grazing on the lands will be free of any medicines and anthelmintics. The repair of gates and stone walls to curtail the movement of livestock onto the lands. Other measures are also controlling vehicles access, controlling flotsam and jetsam and extensive surveys monitoring and audits are also proposed.

7.1.8. Most of the works therefore envisaged under the management plans for the various habitats referred to, involve the removal of anthropogenic intervention to allow the natural habitat to evolve and replenish. The interventions proposed are aimed at assisting and supporting the habitats supporting the qualifying interests to thrive naturally within the receiving environment.

7.1.9. Where human intervention is required in order to achieve these objectives, the interventions are to minimised all repairs of walls gates and sea defences where necessary and appropriate will be undertaken in a sensitive manner. Such repairs will be carried out by in the main by two people on foot and a quad bike will be used to bring fencing posts and other material to the sites, and only during the summer months in order to minimize impacts.

7.1.10. In terms of indirect impacts, no aspects of the measures proposed will have any long-term emissions in terms of noise, air pollution, waster water or surface water discharges. In fact the reduction of livestock densities will result in the reduction of greenhouse gas emissions. The use of acetic acid in the control of *Didemnum* could potentially impact on feeding grounds for birds including Species of Conservation Interest associated with the Galway Bay SPA. However, the use of any such acid will be quickly diluted so as not to pose a threat to the birds within the Bay. Therefore, no adverse indirect effects are anticipated as a result of the compensatory measures to be introduced.

7.1.11. In terms of cumulative or in-combination effects, section 4.3.2 of the addendum to the NIS identifies other plans or projects within a 15 km radius of the site. It also assesses any possible interaction between potential impacts on different environmental receptors arising from the proposed compensatory measures. It is noted that all large settlement agglomerations in the wider area are served by the Mutton WWTP and any future large and small scale developments within the catchment will be connected to the Municipal Waste Water Treatment Plant.

7.1.12. It is noted that the more immediate area has been the subject of a number of grants of planning permission for one-off houses in the countryside. There is a potential for possible water / groundwater contamination through proprietary wastewater treatment system. However, the suitability of the site to accommodate effluent and the nature of the treatment plant to be installed would have been the subject of the thorough and rigorous investigations by the planning authority as part of assessing the application. Furthermore, the relatively low numbers of dwellings in the vicinity and the separation distances between the area which is the subject of the compensation measures are very generous and therefore any potential cumulative effect is negligible. It is reasonable to conclude that no cumulative or in-combination effects will arise.

7.1.13. I consider it reasonable to conclude on the basis of the information in the Compensatory Measures Report Submitted, which I consider adequate in order to carry out the Appropriate Assessment, and that the proposed development, including and the compensatory measures which are deemed to be satisfactory, individually or in combination with other plans or projects would not adversely affect the overall coherence of the European Site No. 000268 (Galway Bay Complex cSAC), or European Site No. 0004031 (Inner Galway Bay SPA) or any other European site, in view of the site's Conservation Objectives.'

8.0 **EIS ASSESSMENT**

8.1. For the purpose of completeness, I consider it appropriate in this report (by way of update) to synopsis and reconfirm my conclusions in respect of the environmental impact statement (EIS) assessment carried out. While, I note the new EIAR provisions set out under the amending 2014 Directive (Directive 2014/52/EU), the

EIS was submitted prior to May 2017, and was assessed on the basis of the applicable legislation at that time.

8.2. Notwithstanding that the Directive does not apply in respect of the current application, in the interest of clarity and openness, I have reviewed the potential environmental impacts as identified in my original report, and conclusions relating to same, so that they are clear and transparent to allow members of the public to understand the reasoning behind the conclusion reached on the impact of the proposed development. With this in mind, I have summarised the main conclusions in relation to the EIS Assessment reached in my original report and set out in detail in Section 9.1 of this report and have included a 'reasoned conclusion' in respect of the EIS originally submitted.

8.2.1. The main conclusions arrived at in the EIS undertaken by the applicants are summarized below:

- It is noted as a matter of preliminary assessment that the EIS submitted assesses in a systematic way the direct and indirect effects of the proposed development on:

  (a) Human beings, flora and fauna.
  (b) Soils, water, air, climate and landscape.
  (c) Material assets and cultural heritage.
  (d) The interaction between the factors in the aforementioned list as required.

- All the written submissions by prescribed bodies and third parties were taken into consideration in arriving at a conclusion in relation to the adequacy or otherwise in the contents of the EIS

- The applicant also submitted a non-technical summary, and I am satisfied that this document adequately summarises the information contained in the main document in an adequate and non-technical manner.

- The EIS also submitted an outline of the main alternatives (see Section 3 of the EIS and also see submission no.'s 38, 39 and 41 submitted at the oral hearing). Chapter 3 sets out the alternatives considered as part of the EIA process. In terms of the alternatives studied, different designs for the port

layout, different locations within the Galway Bay Area and different port locations in Ireland were all assessed in the EIS.

- There is no specific indication contained in the documentation which indicates that any difficulties were encountered in compiling the information submitted.
- Chapter 5 relates to human beings and the socio-economic impacts. The tourism industry is identified as a significant contributor to the socio-economic well-being and vibrancy of the city. The amenity and visual benefits of relocating harbour related use to the extended area are deemed likewise have a positive impact. The proposal will give rise to c.250 jobs and this will have positive indirect impacts on the local economy. The ability of the harbour to facilitate more and bigger cruise ships will have a positive direct effect on tourism. The proposal will provide a bigger marina jetty, promenades and parks as well as opening up coastal walkways along the Bay. The transformation of the inner harbour area for an exclusive leisure marina will also have direct positive impacts on the area. The proposal will have a direct positive impact in terms of employment generation, amenity and tourism. The construction phase will also have a major positive economic impact. In terms of the impact on the fishing industry, the impact is deemed to be neutral. I have considered all of the written and oral submissions made in relation to socio-economic impacts, in addition to those specifically identified in this section of the report. I am satisfied that they have been appropriately addressed in terms of the application and the information submitted by the applicant (including information at the oral hearing) and that no significant adverse effect is likely to arise in relation to socio-economic impacts on human beings.
- The major potential impact arising from dredging relates to the release of suspended solids and contaminants associated with the construction and dredging activity. The mitigation measures to counteract potential adverse impacts include the use of turbidity meters to assess sediment suspension. The incorporation of geo-membranes within the lagoonal areas will curtail sediment release during the infilling process. Studies carried out (granulometry and chemistry analyses of the soil and sediments in the bay) indicate that there are no reasons to suggest that works carried out will result

in the release or mobilisation of deep sediments during the works undertaken. The increased depth of the approach channels to and from the harbour will greatly reduce the potential for sediment suspension by propeller wash and this is noted as a positive impact in the longer term. There are no anticipated additional impacts over and above those already experienced resulting from sediment re-suspension by maintenance dredging operations. I have considered all of the written and oral submissions made in relation to the potential impacts on dredging and water quality, in addition to those specifically identified in this section of the report. I am satisfied that they have been appropriately addressed in terms of the application and the information submitted by the applicant at the oral hearing and that no significant adverse effect is likely to arise.

- The EIS incorporates a very detailed analysis of the existing flora and fauna associated with the site and its surroundings. The information contained in the EIS and NIS (together with the addenda and errata and including the NIS submitted in April 2019 in respect of Compensatory Measures) is augmented by the various ecological briefs of evident submitted at the oral hearing. The EIS sets out a vast array of potential impacts which could arise from the proposed development in terms of its impact on:
    - Designated sites
    - Terrestrial communities
    - Marine communities
    - Fish communities, birds communities and mammal communities.

    It also sets out detailed mitigation measures, where appropriate, in relation to the potential impacts and a monitoring regime in order to assess and address potential impacts. On the whole, it is concluded that there is potential for minor short-term disturbance impacts of fish, birds and aquatic mammals during the construction phase, however best practice and specific mitigation measures will avoid permanent significant negative impacts on migratory fish, seal and bird colonies and will also minimise any impact on local populations of biota. No significant impacts on fish and mammals are predicted during the operational phase. No impacts on Annex I birds are predicted. Benthic fauna

will recover within 1 year of the completion of any dredging at the harbour. It is noted that little evidence was presented in the EIS relating to the potential impact that increased shipping would have on marine birds in Galway Bay some of which are qualifying interests of the SPA, however the consultant ecologist considered that any such impact from increases in maritime traffic would not be ecologically significant. I refer the Board to the Supplementary Addendum report submitted by the Board's Ecologist (Mr Bastreri) prepared in September 2020 which specifically addresses the environmental impact of maritime traffic on bird populations. In this report the ecologist notes that a significant increase in the traffic of recreational craft including motorboats and jet skis can potentially impact on bird populations associated with the SPA. Mr Bastreri original report to the Board (February 2015) noted that the EIS contained limited consideration with regard to the increase in maritime traffic, particularly recreational traffic on foot of the port's extension. This could lead to increased disturbance of bird populations, reduce their feeding time and potentially affect nesting and fledging. However the supplementary report of September 2020 is clear and unambiguous in stating that the impact on birds due to the increase in traffic is unlikely to be significant, provided that adequate mitigations are put in place by way of condition (clearly marked navigation lanes etc.). The ecologist is therefore satisfied, subject to the employment of appropriate mitigation measures, that any increase in maritime shipping will not have a significant adverse impact on the favourable conservation conditions of the Inner Galway Bay SPA.

I considered all of the written and oral submissions made in relation to flora and fauna and biodiversity, in addition to those specifically identified in this section of the report. And in respect of flora and fauna, I am satisfied that the potential impacts have been appropriately addressed in terms of the application and the information submitted by the applicant at the oral hearing and that no significant adverse effect is likely to arise.

- In respect of birds communities (in particular protected bird species), that may be disturbed by construction noise, vibration and increase in shipping traffic, I note the Board's Direction of 25th September 2015, which states that the Board was satisfied that the integrity of the SPA site would not be directly

affected The Board concluded that 'having examined the matter, the Board considered that Mr Bastrari's report represents the best scientific advice available and that it takes a conservative approach in concluding a 'likely moderate adverse' impact owing to disturbance. The Board agreed with Mr Bastrari that such an impact, if it were to arise, would not comprise a significant adverse effect on the integrity of the SPA in view of the site's conservations objectives'.

- The adequacy of the NIS and other ecological material was the subject of a separate assessment by Mr Daniel Bastieiri, Ecological Consultant which was attached to my main report as Appendix 2. Any impacts on Natura 2000 sites have been assessed separately by the Board in its decision.
- Mr. Daniel Bastieiri in September 2020, in addition to considering the compensatory measures put forward by the applicant, also reviewed and confirmed his assessment of February 2015, and concluded in respect of the birds associated with the SPA, that he was satisfied that there was no significant adverse effect, having regard to the proposed mitigation (detailed in his report, and which would be subject of condition, in the event of a grant).
- I am satisfied that having regard to the documents on file, the direction of the Board, the reports of Mr. Bastrari, that in respect of the bird communities that may be disturbed, it should be noted that the birds potentially effected relate primarily to other species not SCIs and given the size of the inner Galway Bay SPA, the available of alternative areas, the adaptability of birds to move to other areas temporarily, it is reasonable to assume that there will not be a significant adverse effect on those species or the conservation objectives that are associated with the maintenance of the favourable conservation conditions of the SPA.
- The hydrology section describes the water movement and water quality within the Bay. Hydrodynamic and sediment modelling of the proposed development was carried out to assess and quantify the potential impacts on tidal circulation, water quality, sedimentation and salinity within the Galway Bay Area and also within Lough Atalia and Renmore Lough. The Board are referred to the separate report prepared by Mr. Jorgen Fredsoe (see

Appendix 4 of the original report submitted to the Board on 27 February 2015). It specifically assesses the EIS in the context of the hydrodynamic marine environment. On the basis of this report and my own assessment, I consider that the EIS has identified and addressed all potential significant impacts both direct, indirect and cumulative arising from the development in relation to the water environment. The potential magnitude of the impacts has been identified and a description of the main measures to avoid, reduce and if possible, offset the major adverse impacts where applicable, have been identified and detailed. This conclusion sits comfortably with the conclusions set out in Mr. Fredsoe's Report prepared in 2015. I have considered all of the written and oral submissions made in relation to hydrology, in addition to those specifically identified in this section of the report. I am satisfied that they have been appropriately addressed in terms of the application and the information submitted by the applicant at the oral hearing and that no significant adverse effect is likely to arise. I have considered all of the written and oral submissions made in relation to water and hydrology, in addition to those specifically identified in this section of the report. I am satisfied that they have been appropriately addressed in terms of the application and the information submitted by the applicant at the oral hearing and that no significant adverse effect on water quality or on the hydrodynamics of the marine environment is likely to arise.

- The main potential impacts identified and described in the EIS in relation to air quality, include changes to ambient dust and particulate matter and the potential for increased odour arising from the construction works and the operation of the port activity. Existing baseline air quality and odours associated with the harbour are detailed. The potential impact is deemed to be minor to moderate and will be the subject of monitoring and, if necessary, controlled. During the operational phase, any emissions would be the subject of a separate licence and all dust related activities will take place within an enclosed environment. The Chapter on air quality has assessed, in an objective and comprehensive manner, the potential impact of the proposed development on air quality during both the construction and operational phases. Based on the information presented, I would concur with the main

conclusions that, with the inclusion of mitigation measures as set out in the EIS, the development is unlikely to have a significant impact on existing air quality. I have considered all of the written and oral submissions made in relation to air quality, in addition to those specifically identified in this section of the report. I am satisfied that they have been appropriately addressed in terms of the application and the information submitted by the applicant at the oral hearing and that no significant adverse effect is likely to arise.

- Noise levels are examined in the EIS in terms of both air-borne and water-borne noise generation resulting from the development. In terms of airborne noise, port related traffic and railway noise are the major contributors to noise generation. It is stated that traffic generation is a major source of noise generation during the day while port related traffic is the dominant noise source at night-time. In terms of underwater noise, it is stated in the EIS that salmon and eels are most likely to be affected during the operational phase and marine mammals are most likely to be affected during the construction phase. For dredging and exclusion zone of 128 metres is required and an exclusion zone of up to 1 kilometre is required for blasting. In terms of vibration, the EIS identifies two potential sources - heavy vehicular traffic and blasting. I note that there is no reference to pile driving as a source of vibration. Pile driving could potentially give rise to vibrations. The sensitive receptor in terms of blasting is deemed to be bitumen and fuel storage tank farms as well as ground nesting birds and commercial shell fishing. Mitigation measures to reduce the impact of vibration include delayed detonation and permitting blasting at other certain times of the year so as not to impact on wildlife. Best practice blasting techniques will be employed as mitigation measures. I had initially some concerns in relation to the methodology employed in assessing noise impacts (See section 9.1.8 of my original report for these concerns -p.93), these concerns were addressed and allayed on foot of information presented at the oral hearing. As a result, I am satisfied that the EIS has identified and described the potential impacts arising from the proposed port expansion in terms of noise and vibration and any impact arising would be acceptable in environmental terms. I am further satisfied that

any adverse impact in terms of noise and vibration would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of noise and vibration.

- The EIS considered that the proposed development will not have any impact on climate on a macro scale. The information contained in the EIS was augmented by two submissions in the oral hearing by Antony Cawley at the oral hearing (submissions No.'s 2 and 21). Having regard to the nature and extent of the development this is a reasonable conclusion in my view. I have considered all of the written and oral submissions made in relation to climate. I am satisfied that they have been appropriately addressed in terms of the application and the information submitted by the applicant at the oral hearing and that no significant adverse effect is likely to arise.
- The landscape character of the area is described and the proposal is assessed against the various landscape characteristics in the Galway Bay. The impact is described in the EIS as being generally "permanent slight negative impact". The impact on the 'Urban Waterfront Landscape' is deemed to be a moderate to significant negative impact. Various visual receptions in the wider area are also identified and the degree of visual impact is evaluated. Eighteen receptor points are identified in the EIS and the visual impact on these receptor points are considered to be slight to moderate. The night-time visual impact is also assessed. Ships and light pollution are identified as being the biggest contributors to night-time visual impact. The EIS also separately assesses the visual impact arising from construction. Overall mitigation measures include landscaping, the use of colour and cowled lighting within the harbour area. It is also stated that placing the marina element on the city side of the development will help filter and create a soft edge to the overall port development and deflect away from the industrial nature of the activities. Details of landscaping proposals are also set out. It is my considered opinion that the EIS adequately describes, depicts and evaluates the potential impacts of the proposal in the visual amenity and landscape, and the impacts in relation to same are considered to be

acceptable. I am satisfied that adverse visual impacts would be avoided, managed and mitigated by the landscaping measures and the proposed configuration of port related activities which form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of visual amenity.

- The EIS identifies and describes the impact on cultural heritage, it reasonably in my opinion concludes that the impact arising from the port expansion would be neutral. In terms of archaeology, extensive geo-physical and dive surveys of the proposed extension area discovered no definitive archaeological features associated with the shipwrecks however, the EIS acknowledges that there could be some archaeological remains in the deep sediment. All other impacts from a terrestrial archaeological perspective are deemed to be slight, neutral or imperceptible. The mitigation measures include archaeological monitoring and, where archaeological features are encountered, if appropriate, such artefacts will go on public display. The Archaeological impacts have been identified and described in the EIS and are not considered to be significant. I have considered all of the written and oral submissions made in relation to cultural heritage and archaeology, in addition to those specifically identified in this section of the report. I am satisfied that they have been appropriately addressed in terms of the application and the information submitted by the applicant at the oral hearing and that no significant adverse effect is likely to arise.
- In term of traffic the most significant potential impact is identified as being increase in traffic levels during both the construction and operation of the port facility. 15 key junctions have been identified and modelled for the purposes of the traffic assessment. A number of large scale committed developments in the city centre and outer suburbs have also been included for the purposes of estimating future trip generation within the city. The Galway City outer bypass which is envisaged to be constructed before 2020 has not been included in the modelling (thus traffic which is likely to be removed from the city centre as a result of the construction of the outer bypass has not been factored into the forecast models). The chapter on traffic outlines the trip

generation for the various land uses proposed and these are primarily based on the TRICS database (Table 13.4.1 to Table 13.4.27 in the EIS). Reference is made to the trip generation from the individual land uses which will make up the harbour development (marinas, industrial uses etc.) The trip generation for construction activity associated with the work is also included in the modelling. The SATURN model was used for the purposes of forecasting future trip generation. The EIS also indicates that it is proposed to designate certain haulage routes for HGV traffic in order to reduce the impact on roads which are generally considered unsuitable to accommodate traffic. Other mitigation measures are proposed. These include general traffic management measures and road improvement works which will improve the flow of traffic to and from the harbour. I am satisfied that the EIS has attempted to ascertain the significant traffic impacts arising from the proposed development and assesses future traffic volumes arising from the development in the context of other developments which will occur in Galway city. The future volumes of traffic along with the various trip assignments along the local road network have been modelled under various growth scenarios. I consider that the EIS attempts to predict a reasonable and accurate picture of traffic flows within the city resulting from the proposed development (based on TRICS data) in the context of other developments. The information presented in the EIS appears to represent a fair, accurate and honest portrayal of traffic impact in the city under future possible growth scenarios. Mitigation measures in relation to general traffic management measures for haulage routes a network upgrades as well as road safety issues concerning vehicles, pedestrians and cyclists are also set out in the section on traffic. I am, therefore, satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of traffic congestion or delay. I am also satisfied that while some cumulative effects may arise from the proposed development together with existing and permitted developments in the Galway City area, these would be avoided, managed and mitigated by the measures which form part of the proposed development and through suitable conditions.

8.3. Conclusions in respect of EIS Assessment

- Having regard to the examination of environmental information contained above, and in particular to the EIS and supplementary information provided by the applicant, and the submission from the planning authority, prescribed bodies, appellants, and observers in the course of the application, including submissions made to the oral hearing, and further input from Mr. Bastrari, it is considered that the main significant direct and indirect effects of the proposed development on the environment are as follows:

- The positive economic impact in terms of employment, trade and tourism which would arise as a result of the proposed Galway Port expansion.
- The potential adverse impact on the visual amenity of the area which can be avoided by the overall design, configuration and landscaping proposals.
- The increase in traffic which can be avoided, mitigated, or otherwise addressed by more efficient traffic management arrangements within the city centre and the provision of designated haulage routes to and from the port.
- The increase in noise and vibration arising from construction and operational activities both on humans and marine and terrestrial environment (including marine bird species) which can be mitigated to an acceptable level through employing best practice techniques in relation to noise and vibration abatement during both the construction and operational phases.
- The issue with respect to the loss of marine habitats, and provision of compensatory measures is addressed above, in the context of Appropriate Assessment.

9.0 OVERALL CONCLUSIONS IN RESPECT OF COMPENSATORY MEASURES PROPOSED

9.1. On the basis of the Compensatory Measures Report submitted together with the further clarification on certain matters issued through additional information, and the report prepared by Mr Daniel Bastreri, the Consultant Ecologist employed by the Board, which expresses over all satisfaction in relation to the chosen site in terms of being suitable to provide effective compensatory measures for the lost of habitat

associated with the GHE; and his general satisfaction that the elements of the monitoring programme have been addressed in terms of set out clear and unambiguous objectives with appropriate targets and indicators which are fit for purpose, I consider that the Board can in accordance with the provisions of S177AA,

(a) Set out the imperative reasons of overriding public interest that necessitate the giving of consent for the proposed development.

(b) Propose the compensatory measures that are necessary to ensure that the overall coherence of the Natura 2000 network is protected.

(c) prepare a Statement of Case that the imperative reasons of overriding public interest exist and the compensatory measures that are required.

(d) Forward the said statement to the Minister together with a copy of the planning application and Natura Impact Statement.

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Paul Caprani

Senior Planning Inspector

6th October 2020