

APPROPRIATE ASSESSMENT TECHNICAL REVIEW

FS007084 Donegal County Council Dredging and Beach Nourishment at
Magheraroarty Pier, Co Donegal

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REPORT

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1 INTRODUCTION

1.1 Project Overview

Donegal County Council have submitted a foreshore license application for the annual dredging and beach nourishment of Magheraroarty Pier (Dooley Strand), Gortahork, Co. Donegal. The project involves the relocation of sand material from the area of accretion (Magheraroarty Harbour) to an intertidal area on the strand which experiences natural erosion from wave, wind and longshore drift action. Magheraroarty Harbour is located within a Natura 2000 designated site, Ballyness SAC (001090), and adjacent to Falcarragh to Meenlaragh SPA (004149). Over the winter months sand continues to be transported along Dooley Strand and deposited along the berthing face of the pier.

A maximum volume of 20,000 tonnes per annum of deposited sand is to be removed from the Harbour and dumped onto an intertidal zone encompassing an area of 12.7 ha. The annual maintenance dredging of Magheraroarty Harbour is required to maintain navigational depth to -2.5m Chart Datum (CD) for the Tory Island ferry, commercial fishing boats and charter boats in the local area.

The dredging is scheduled to take place at low tide over a 5-6 day period during the equinoctial spring tides in March/April each year. Completing the dredging work over the spring tide will allow access to the entire berthing area. The sand is to be excavated by 360-degree tracked excavators working at low tide and loading articulated dumpers. The sand will be brought to the adjacent beach, where it will be spread evenly using a 360-degree low bearing tracked excavator. The beach nourishment area and haulage route will be mapped out in advance. The work is restricted by the tide therefore there will be no build-up of sediment along Dooley Strand during the 5-6-day period of works. It is expected that the total duration of works on-site will be 6 days (mobilisation, preparation, spreading and demobilisation) with 4 days of dredging activity during that period.

No plant or equipment will be parked on the beach overnight or outside working hours. Access to the beach will be restricted during the works usually 4 hours over the 5-6-day period. Works will be advertised on local radio and signs posted to notify users.

Prior to the commencement of works an Ecological Clerk of Works is to be consulted to ensure that environmental protection measures are adhered to, and that all haul routes for material and the area for nourishment are clearly delineated.

1.2 Methodology

The AA will comprise a review of the documentation submitted as part of the foreshore licence application, in particular the accompanying NIS, which should identify the potential impacts of the proposed activities on the qualifying interests of European sites.

The European Communities (Birds and Natural Habitats) Regulations 2011 (as amended), provides the following interpretation of what constitutes an NIS: "Natura Impact Statement" means a report comprising the scientific examination of a plan or project and the relevant European Site or European Sites, to identify and characterise any possible implications of the plan or project individually or in combination with other plans or projects in view of the conservation objectives of the site or sites, and any further information including, but not limited to, any plans, maps or drawings, scientific information or data required to enable the carrying out of an Appropriate Assessment.

This technical review and AA have been undertaken with regard to the appropriate legislation, guidance and departmental circulars.

The NIS will be scrutinised to assess whether it includes the following:

- Robust scientific information and analysis including the reasoning and justifications for the conclusion. Other relevant documents submitted by the applicant may be cross-referenced and the findings integrated into the assessment, particularly where analysis of environmental factors is required to determine effects on the structure and function of the European sites.
- Compliance with the tests and standards of AA as presented in European and national guidance.
- The assessment is carried out for the whole project, including all associated and ancillary elements.

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- A robust scientific assessment and conclusions are reached relative to:
 - Conservation objectives of site(s), and
 - Integrity of site(s).
- Complete, precise and definitive findings and conclusions, capable of removing all reasonable scientific doubt as to the effects on the European sites.

The NIS and other reviewed documents are taken into account to arrive at a definitive determination under Article 6(3) of the Habitats Directive as to whether the project, on its own or in combination with other plans and projects, will adversely affect the integrity of a European site. In conducting the AA, case-law of the Court of Justice of the European Union (Case C-258/11) has established that the assessment carried out under Article 6(3) cannot have lacunae and must contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of a project on a European site.

In the European Communities (Birds and Natural Habitats) Regulations 2011, in carrying out an Appropriate Assessment under paragraph (11) the public authority shall take into account each of the following matters:

- a. the Natura Impact Statement,
- b. any other plans or projects that may, in combination with the plan or project under consideration, adversely affect the integrity of a European Site,
- c. any supplemental information furnished in relation to any such report or statement,
- d. if appropriate, any additional information sought by the authority and furnished by the applicant in relation to a Natura Impact Statement,
- e. any information or advice obtained by the public authority,
- f. if appropriate, any written submissions or observations made to the public authority in relation to the application for consent for proposed plan or project, and
- g. any other relevant information.

2 APPROPRIATE ASSESSMENT

2.1 Screening for Appropriate Assessment

An 'Screening Report for Appropriate Assessment' (hereafter referred to as the Screening for AA) was submitted as part of the foreshore licence application on 5th January 2021, which intended to inform the Screening for AA to be completed by DHLGH. The Screening for AA document submitted by the applicant concluded that:

“...due to the scale, nature, and location of the proposed project there could be a significant negative effect on the qualifying interest of Mudflats and Sandflats not covered by seawater at low tide (1140). This qualifying interest has the potential to be damaged by mechanical activity during transportation of sand by dump trucks to the agreed site. It is therefore considered that a stage 2 Appropriate Assessment is required i.e. the preparation of an NIS”.

The applicant submitted a 'Natura Impact Statement' (NIS) (December 2020) containing an updated Screening for AA and an 'Appropriate Assessment' chapter, which has been used to inform this review and appropriate assessment carried out on behalf of DHLGH.

RPS carried out a Screening for AA on behalf of DHLGH (RPS report reference: MGE0778RP0016), which concluded that without the implementation of mitigation measures the proposed project, individually or in combination with other plans or projects, is likely to have a significant effect on Ballyness Bay SAC, in view of the sites' conservation objectives.

The elements of the proposed project alone or in combination with other projects or plans that are likely to give rise to significant effects on the above European sites include the following:

- The overlap and proximity of dredging and deposition activities to QIs of Ballyness Bay SAC,
- The uncertainty at the screening stage around deposition procedures on or close to sand dune habitats, and,
- The potential for abrasion/disturbance to mudflat and sandflat habitats from mechanical activities.

Therefore, the project is subject to an AA in accordance with Article 6(3) of the EU Habitats Directive (Directive 92/43/EEC) on the Conservation of Natural Habitats and of Wild Fauna and Flora; the Planning and Development Act 2000 (as amended); and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011).

2.2 Appropriate Assessment Checklist

As per the EC Guidelines (2002) the checklist in **Table 2.1** outlines the information necessary to complete the AA.

Table 2.1 Checklist for Appropriate Assessment

Are these known or available?	✓ / x
Information about the project or plan.	✓: A project description for the proposed works is provided in the NIS Chapter 4.
Full characteristics of the project or plan which may affect the site.	✓: The characteristics of the proposed project are provided in the NIS Chapter 3.
The total range or area the plan or project will cover.	✓: The area of the project is provided in the Foreshore Licence Map.
Size and other specifications of the project.	✓: Size and other specifications of the project are provided in the NIS Chapter 4.

The characteristics of existing, proposed or other approved projects or plans which may cause interactive or cumulative impacts with the project being assessed and which may affect the site.	√: The In-combination Impact Assessment is provided in NIS Chapter 7.
Planned or contemplated nature conservation initiatives likely to affect the status of the site in the future.	x: No nature conservation initiatives have been considered.
The relationship (e.g. key distances etc.) between the project or plan and the Natura 2000 site.	√: European sites within 15 km of the proposed project are listed in the NIS Table 3.2. Distances between the sites screened in for AA and the project were provided in the NIS.
The reasons for the designation of the Natura 2000 site.	√: Site descriptions for each European site screened in for AA are provided in the NIS Chapter 3 table 3.2.
The conservation objectives of the site and the factors that contribute to the conservation value of the site.	√: The conservation objectives of the Ballyness Bay SAC and Falcarragh to Meenlaragh SPA are given in the NIS section 3.5.
The conservation status of the site (favourable or otherwise).	√: The conservation statuses of the European sites screened in for AA have been provided in the NIS.
The existing baseline condition of the site.	x: The existing environment at the Magheraroarty Pier location is provided in section 5, with the existing condition of the sites screened in for AA provided in section 3.
The key attributes of any Annex I habitats or Annex II species on the site.	√: The Qualifying Interests for both Ballyness Bay and Falcarragh to Meenlaragh SPA are provided in section 6 of the NIS.
The physical and chemical composition of the site.	
The dynamics of the habitats, species and their ecology.	
Those aspects of the site that are sensitive to change.	
The key structural and functional relationships that create and maintain the site's integrity.	
The seasonal influences on the key Annex I habitats or Annex II species on the site.	
Other conservation issues relevant to the site, including likely future natural changes taking place.	X: No other nature conservation initiatives or future natural changes have been considered.

2.3 Structure of the Appropriate Assessment Report

A summary of the project description is provided in **Section 2.4** and the elements of the project alone and in combination with other projects or plans that are likely to give rise to significant effects on the European site are outlined in **Section 2.5**.

The conservation objectives for the European sites screened in for AA are provided in **Section 2.6**.

Assessments on how the project will affect the key species, acknowledging any uncertainties and any gaps in information and on how the project will affect the integrity of the European sites are provided in **Chapter 3**.

A summary of the observations and submissions received on the application is provided in **Section 4**.

Proposed mitigation measures are provided in **Section 5**.

2.4 Project Description

Dredging is proposed to take place annually during the equinoctial-spring tides in an area c.0.62 ha. This will provide the maximum time at low tide-mid tide allowing for efficient removal of material from the harbour. Proposed dredging will be carried out at low to mid tide from the beach using 2 No. 360° excavators.

Removal of material is to be carried out by experienced personnel to minimise excess sediment mobilisation. Removed material will then be loaded on to 2 no dump trucks and transported along a marked route along the foreshore, during low tide – mid tide to the agreed disposal site on Dooley Strand for the purposes of beach nourishment. Both the haul route and the area for disposal are to be clearly marked prior to any dredging. A maximum of 20,000 tonnes per annum of sand will be removed from the berthing wall face of the harbour depending on the level of winter accretion. The minimum amount required to allow for safe navigable depth at the harbour will be removed. The safe navigable depth is -2.5m Chart Datum for the Tory Island ferry, commercial fishing boats and charter boats of the local area. Dredging will take place in shifts during daylight hours. The works will take place over a 4–6-day period. It is expected that the total duration of works on-site will be 6 days (mobilisation, preparation, spreading and demobilisation) with 4 days of dredging activity during that period. The material to be removed from within Magheraroarty harbour is that of recently deposited sand which has been transported along Dooley Strand and deposited by natural processes. This sand was sampled for particle size composition and tested for the presence of contaminants. The sediment characterisation found to be brown clean sand and indicated that the sediment was below the lower action limits¹ for all contaminants tested.

While the dredging will give rise to temporary increases in sediment mobilisation in the surrounding water column due to physical disturbance, this will comprise relatively small volumes of material. While the proposal will result in disturbance and re-suspension of sediment within the dredge site the impacts will be localised to the area in question and temporary in nature.

The agreed location for beach nourishment on Dooley Strand covers an area of the intertidal foreshore of approximately 12.7ha approx. midway along the beach. The area for nourishment is to be delineated prior to dredging with wooden stakes. The proposed area for beach nourishment represents a small portion of the 3km long Dooley Strand. The deposited material will be spread to a height not exceeding 20mm above the existing ground level in the area for nourishment. Previous campaigns have demonstrated that the deposited sand is naturally levelled by tidal action, with material dispersing on the incoming and outgoing tides. A limited quantity of material will be deposited during each dredging shift due to the timing of the tide. This will help ensure no visible sediment plumes occur during and immediately after deposition.

2.5 Elements of the Project (Alone or in Combination with other Projects or Plans) that are Likely to Give Rise to Significant Effects on European Sites

The elements of the proposed project identified as having the potential to give rise to effects on European sites include the following:

- The overlap and proximity of dredging and deposition activities to QIs of Ballyness Bay SAC,
- The uncertainty at the screening stage around deposition procedures on or close to sand dune habitats, and,
- The potential for abrasion/disturbance to mudflat and sandflat habitats from mechanical activities.

Due to the nature of the project, there are no construction or decommissioning phases, and therefore no impacts associated with these phases. It should be assumed that all impacts assessed are relevant to the operation of the project, i.e., operations. In-combination effects are discussed in the NIS Chapter 14 and these are considered in this assessment in **Section 3.3**.

¹ Cronin, M., McGovern, E., McMahon, T. & Boelens, R., "Guidelines for the Assessment of Dredge Material for Disposal in Irish Waters", Marine Environment and Health Series No. 24, Marine Institute 2006

2.6 European Site Descriptions

2.6.1 Ballyness Bay SAC: Qualifying Interests and Conservation Objectives

Ballyness Bay SAC is designated for seven coastal QIs:

- Estuaries [1130];
- Mudflats and sandflats not covered by seawater at low tide [1140];
- Embryonic shifting dunes [2110];
- Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120];
- Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130];
- Humid dune slacks [2190]; and
- *Vertigo geyeri* (Geyer's Whorl Snail) [1013]

The screening for AA established that there was no pathway for impact between the proposed development and the following features: estuaries, humid dune slacks and Geyers whorl snail, therefore these features were screened out of further assessment. The screening for AA determined that likely significant effects could not be excluded for mudflats and sandflats not covered by seawater at low tide or the remaining sand dune features.

The conservation objectives (COs) of QIs screened in for AA the Ballyness Bay SAC (NPWS, 2014a) are outlined in the NIS table 6.1. and are provided in **Table 2.2** below.

Table 2.2 Relevant Qualifying Interests and Conservation Objectives of the Ballyness Bay SAC (001090)

Qualifying Interest	Conservation Objective	Attribute	Measure	Target
Mudflats and sandflats not covered by seawater at low tide [1140]	To maintain the favourable conservation condition.	Habitat area	Hectares	Permanent habitat area is stable or increasing, subject to natural processes.
		Community distribution	Hectares	Conserve the following community types in a natural condition: Coarse sediment to sandy mud with oligochaetes and polychaetes community complex; Mobile sand community complex.
Embryonic shifting dunes [2110]	To maintain the favourable conservation condition	Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. Dooney strand - 4.81 Ha, Ballyness - 2.26 Ha.
		Habitat distribution	Occurrence	No decline or change, subject to natural processes.
		Physical structure: functionality and sediment supply	Presence/absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions.
		Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession.
		Vegetation composition: plant health of foredune grasses	Percentage cover	More than 95% of sand couch grass (<i>Elytrigia juncea</i>) and/or lyme grass (<i>Leymus arenarius</i>) should be healthy (i.e., green plant parts above ground and flowering heads present).
	Vegetation composition: typical species and subcommunities	Percentage cover at a representative number of monitoring stop	Maintain the presence of species-poor communities with typical species: sand couch grass (<i>Elytrigia juncea</i>) and/or lyme grass (<i>Leymus arenarius</i>).	

Qualifying Interest	Conservation Objective	Attribute	Measure	Target
		Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-native species) to represent less than 5% cover.
		Habitat area	Hectares	Area stable or increasing, subject to natural processes including erosion and succession. For sub-sites mapped: Dooney 8.98ha; Ballyness - 14.15ha.
		Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes.
		Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions.
Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120]	To maintain the favourable conservation condition	Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession.
		Vegetation composition: plant health of dune grasses	Percentage cover	More than 95% of marram grass (<i>Ammophila arenaria</i>) and/or lyme grass (<i>Leymus arenarius</i>) should be healthy (i.e., green plant parts above ground and flowering heads present).
		Vegetation composition: typical species and subcommunities	Percentage cover at a representative number of monitoring stops	Maintain the presence of species-poor communities dominated by marram grass (<i>Ammophila arenaria</i>) and/or lyme grass (<i>Leymus arenarius</i>).
		Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-natives) to represent less than 5% cover.

Qualifying Interest	Conservation Objective	Attribute	Measure	Target
Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	To maintain the favourable conservation condition	Habitat area	Hectares	Area stable or increasing, subject to natural processes including erosion and succession. For subsites mapped: Dooley - 97.04ha; Ballyness - 90.95ha.
		Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes.
		Physical structure: functionality and sediment supp	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions.
		Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession.
		Vegetation structure: bare ground	Percentage cover	Bare ground should not exceed 10% of fixed dune habitat, subject to natural processes.
		Vegetation structure: sward height	Centimetres	Maintain structural variation within sward.
		Vegetation composition: typical species and sub communities	Percentage cover at a representative number of monitoring stops	Maintain range of subcommunities with typical species listed in Delaney <i>et al.</i> (2013).
		Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-natives) to represent less than 5% cover.
		Vegetation composition: scrub/trees	Percentage cover	No more than 5% cover or under control.

2.6.2 Falcarragh to Meenlaragh SPA: Qualifying Interests and Conservation Objectives

Falcarragh to Meenlaragh SPA is designated for one bird species:

- Corncrake (*Crex crex*)

A description of Falcarragh to Meenlaragh SPA is provided in the NIS Appendix II (page 39). The screening for AA established that there was no pathway to impact between the proposed development and the QI for this SAC due to the timing of the works. Therefore, it was screened out of further assessment.

For the purposes of this AA and completeness, the COs, attribute and targets for Falcarragh to Meenlaragh SPA were sourced from the NPWS (2021) and are provided in **Table 2.3** below.

Table 2.3 Qualifying Interests and Conservation Objectives of the Falcarragh to Meenlaragh SPA [004149]

Qualifying Interest	Conservation Objective	Attribute	Measure	Target
Corncrake (<i>Crex crex</i>) [A122]	To maintain the favourable conservation condition.	Access to suitable habitat	Number of artificial barriers	Species range within the site should not be restricted by artificial barriers to site use.
		Breeding behaviour	Breeding sites	Conserve the breeding sites in a natural condition.
		Disturbance	Level of impact	Human activities should occur at levels that do not adversely affect the Corncrake population in the vicinity of site.

3 ASSESSMENT OF IMPACTS

As outlined in the previous section, one SAC has been taken forward for assessment in the AA:

The following list of QI habitats at Ballyness Bay SAC are brought forward for assessment of impacts:

- Mudflats and sandflats not covered by seawater at low tide,
- Embryonic shifting dunes,
- Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes), and,
- Fixed coastal dune with herbaceous vegetation (grey dunes).

The three sand dune habitats are considered together as one 'receptor' group, as their conservation objectives are similar.

3.1 Mudflats and sandflats not covered by seawater at low tide

3.1.1 Assessment of mechanical erosion

The Screening for AA concluded that there was potential for likely significant effects from mechanical activity due to the movement of vehicles across Dooley Strand from the extraction site at Magheraroarty Pier to the nourishment site, as this has the potential to contribute to erosion along the foreshore.

3.1.2 Mitigation

A contract condition has been proposed whereby the route for movement of the trucks will be staked out prior to the works commencing, they will be fitted with low profile tyres (reducing the overall pressure on each square inch of ground) and when not in use they will not be parked or left idle on the shorefront. The timeframe for movement on the strand will also be limited to a narrow window of works (low to mid-tide)

3.1.3 Conclusion

The implementation of a staked-out route and limited timeframe for movement of the trucks, results in the pressure on the receptor being reduced to negligible/fully recoverable levels. It can therefore be concluded that the proposed development will not have an adverse effect on the integrity of Ballyness Bay SAC, alone or in combination with other plans or projects.

3.2 Sand dune complexes

3.2.1 Assessment of changes to sand dune morphology

The Screening for AA concluded that the sand dune complex (Embryonic shifting dunes [2110], Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120] and Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]) could be adversely affected by the works if the sand is not correctly placed. Dunes are dynamic habitats, the nature and extent of dune habitat depends on the balance of environmental forcing factors (wind, wave, tide, sediment supply, precipitation); and dunes are influenced by fluctuations in these factors. The careful beach nourishment is necessary, to contribute to the net accretion/growth of the dunes.

3.2.2 Mitigation

The dredged material is understood to be mainly eroded material from Dooley Strand which has accumulated at the berth face of the harbour due to longshore drift. The strategic placement of the dredged material means that discrete mounds won't be formed on the foreshore which would contribute to erosion of the sand dunes behind. The planned placement of the material is at a midpoint along the strand, at the beach and shoreface.

3.2.3 Conclusion

Where there is interference with the natural supply to the dune system the dunes experience more erosion overtime. The placement of the dredged material should be carefully considered to ensure the beach nourishment activity has the desired effect. Ideally the material should be placed at the beach and shoreface as this can contribute to the increase of the sediment budget for recreation and maintenance and help strengthen the coastal profile. However, the use of beach nourishment is more commonly used in combination with other methods to help reduce sediment movement and slow down local erosion events. Overall, it can therefore be concluded that the proposed development will not have an adverse effect on the integrity of Ballyness Bay SAC dune complexes, alone or in combination with other plans or projects.

3.3 Assessment of In-Combination Impacts

In-combination impacts of the proposed project are investigated in the NIS, Section 7, Table 7.1. In their further information document, the applicant investigated the following projects for the potential for in-combination effects with the proposed project:

- Ionad a'Phobail Mhachaire Rabhartaigh carpark extension and children's play area construction

Due to the location, scale and nature of the above project, no temporal or spatial overlaps of impacts with the impacts of the proposed project were identified and therefore, no in-combination adverse effects on the integrity of European sites were identified. Furthermore, an Ecological Clerical of Works will be assigned upon commencement of the project to oversee the works.

3.4 Assessment of Impacts on the Integrity of European Sites

From the Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (EC, 2002), the meaning of integrity is described as follows:

'The integrity of a site involves its ecological functions. The decision as to whether it is adversely affected should focus on and be limited to the site's conservation objectives' (MN2000, paragraph 4.6(3))'.

Site specific conservation objectives have been prepared for each European site, where available, and are summarised in **Table 2.2 to Table 2.3** above.

From the information gathered and the predictions made about the changes that are likely to result from the construction and operation stages of the project, the integrity of site checklist is completed for the European sites screened in for AA in **Table 3.1** below.

Table 3.1 Integrity of Site Checklist for European Sites

Does the project have the potential to:	Ballyness Bay SAC
Cause delays in progress towards achieving the conservation objectives of the site?	No. The mudflats and sandflats and the dune complexes at the site are in favourable conservation condition and no disruptions to the maintenance of favourable condition of the site are expected.
Interrupt progress towards achieving the conservation objectives of the site?	No. The mudflats and sandflats and the dune complexes at the site are in favourable conservation condition and no disruptions to the maintenance of favourable condition of the site are expected.
Disrupt those factors that help to maintain the favourable conditions of the site?	No. The mudflats and sandflats and the dune complexes at the site are in favourable conservation condition at the site and any disturbance (e.g. mechanical) will be low-level and temporary. No disruptions to the maintenance of favourable condition of the site are expected.
Interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	Not applicable due to the nature of the QI of the site.
Other Indicators	
Does the project or plan have the potential to:	
Cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	No. There will be no impacts capable of changing the defining aspects that determine how the site functions as a habitat.
Change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	No. There will be no impacts capable of changing relationships that define the structure or function of the site.
Interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	No. There will be no impacts capable of interfering with expected natural changes to the site.
Reduce the area of key habitats?	No. There will be no impacts capable of reducing the area of key habitats within the site.
Reduce the population of key species?	Not applicable due to the nature of the QI of the site.
Change the balance between key species?	Not applicable due to the nature of the QI of the site.
Reduce diversity of the site?	Not applicable due to the nature of the QI of the site.

Does the project have the potential to:

Ballyness Bay SAC

Result in disturbance that could affect population size or density or the balance between key species?

Not applicable due to the nature of the QI of the site.

Result in fragmentation?

Not applicable due to the nature of the QI of the site.

Result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding, etc.)?

Not applicable due to the nature of the QI of the site.

4 OBSERVATIONS AND SUBMISSIONS

4.1 First Consultation

Public consultation was carried out under S19 of the Foreshore Act 1933 as amended between 12 March 2021 and 12 April 2021. Consultation responses are described in detail in Section 2.2 of the accompanying Screening for EIA report, carried out by RPS on behalf of DHLGH. Of relevance for this AA report are the observations from Inland Fisheries Ireland (IFI) and Marine Survey Office. A brief summary of the observations is provided in Section 3.2 of the screening for appropriate assessment technical review (Doc. MGE0778RP0015).

4.2 Second Consultation

Following the screening determination, a second public consultation was carried out under S42 of the EC Birds and Natural Habitats Regulations 2011 as amended between 25 November 2021 and 24 December 2021. Observations were submitted by the following statutory consultees: Marine Survey Office, Marine Institute, Environmental Protection Agency, Inland Fisheries Ireland, Underwater and Archaeology Unity/NPWS, Marine Adviser at DHLGH and Department of Agriculture, Food and Marine. One public submission was received. These observations and submission were reviewed and taken into consideration in the final AA Determination.

5 MITIGATION MEASURES

5.1 Summary of Proposed Mitigation Measures

The applicant has proposed mitigation measures in the NIS Section 7. These measures are provided to ensure that the proposed works do not prevent or obstruct any of the QI habitats from maintaining favourable conservation status. **Table 5.1** below provides a summary of proposed mitigation measures.

Table 5.1 Integrity of Site Checklist for European Sites

Stages of Development	Measures to be introduced	Details of measure	Explain how the measures will <u>avoid</u> the adverse effects on the integrity of the site.	Explain how the measures will <u>reduce</u> the adverse effects on the integrity of the site.	Provide evidence of how they will be implemented and by whom.
Pre-Development Stage.	<p>Ecological Clerk of Works (ECoW)</p> <p>Area for dredging and beach nourishment clearly defined after consulting with the ECoW.</p> <p>All personnel are to be briefed by ECoW prior to work commencing.</p> <p>Toolbox talks are to take place to ensure that personnel are aware of ecologically sensitive areas.</p> <p>Dump trucks fitted with low profile tyres prior to entering the foreshore.</p> <p>Checks for oil/fuel/water leaks conducted in the adjacent car park.</p> <p>The plant that shall be used during the works should be thoroughly cleaned before entering the site.</p>	<p>ECoW appointed for the site and will advise on implementation of the mitigation measures, i.e. pre-planned haulage route, briefing of personnel, correct machinery equipment and no threats to the integrity of the site.</p>	<p>Selected dredge locations, haulage routes, and nourishment site will concentrate the operation to a very small area avoiding adverse effects on the integrity of surrounding area.</p> <p>Plant operating with specified tyres will avoid disrupting the beach composition.</p>	<p>Pre-determined dredged areas, haulage routes and beach nourishment site will reduce adverse effects on the integrity of the site.</p> <p>Personnel aware of ecological importance of the site will be more cautious hopefully reducing adverse effects.</p> <p>Plant equipped with correct features will reduce adverse effect.</p> <p>Checks for leaks and refuelling away from foreshore will reduce pollution risks.</p>	<p>ECoW implement mitigation measures, area of nourishment are delineated using a handheld GPS and timber stakes. Haul routes agreed upon with the ECoW considering conditions at that specific time.</p> <p>ECoW brief personnel and introduce toolbox talks prior to work commencing regarding ecologically sensitive areas</p> <p>ECoW regularly check plant for leaks and that machinery is up to standard to not compromise integrity of the subject site</p>
	<p>Dredging should be carried out by a competent excavator operator to ensure precise removal.</p>	<p>360-degree excavators remove sediment from selected locations and are transported along a</p>	<p>Replenishing nourishment site instead of removing dredged material to</p>	<p>Competent excavator will only remove minimal sediment required, spreading</p>	<p>ECoW oversees operation, designated haul routes to and from dredged area to nourishment site agreed prior to commencement of project. Refuelling and</p>

Stages of Development	Measures to be introduced	Details of measure	Explain how the measures will <u>avoid</u> the adverse effects on the integrity of the site.	Explain how the measures will <u>reduce</u> the adverse effects on the integrity of the site.	Provide evidence of how they will be implemented and by whom.
Dredging and Deposition of Dredged Material.	<p>Dredged material deposited evenly across the area for nourishment not exceeding a height greater than 20mm.</p> <p>No dredged material removed off site maintain sediment budget for Dooley Strand.</p> <p>When idle, plant must be stored in areas which are less susceptible to possible pollution incidents.</p> <p>Spill kits must be made available in case of accidental oil spillage.</p> <p>Refuelling must be located at a designated location away from watercourses</p> <p>Plant must be thoroughly inspected and serviced before the commencement of works to ensure it is working efficiently and sustainably.</p> <p>Timing of works is to take place after 11:30am and is not to exceed 5 days in early to late March annually, to minimise disturbance to local bird species.</p> <p>Mufflers must be applied to all machinery.</p>	<p>pre-determined haulage route to beach nourishment site on Dooley Strand to replenish area due to wind, wave action and longshore drift.</p> <p>Plant only on foreshore while operating and removed to a location away from Strand during refuelling and inspections.</p> <p>Works carried out on and during specified days to minimise disturbance and idle machinery turned off. Mufflers used in conjunction to reduce noise/emission levels defined in EC Directive 86/662/EEC and any subsequent amendments.</p>	<p>offsite location maintains integrity of the site.</p> <p>Spillage kits, refuelling off site and inspection of plant will avoid pollution risks.</p> <p>Timing of works will avoid adverse effect on bird species within the area and the use of mufflers will avoid disturbances to those species.</p>	<p>dredged material evenly at nourishment site and replenishing area will maintain natural integrity of the area and not change the landscape.</p> <p>Inspection of plant, refuelling offshore and readily available spillage kits will minimise pollution risks.</p> <p>Starting works at 11:30am and the works not exceeding 5 days further reduces any adverse effect on bird species and integrity of the site.</p>	<p>plant inspections carried out prior to operation on the foreshore.</p> <p>ECoW ensures timing of works does not exceed 5 days and minimal disturbance for bird species was created introducing mufflers and idle machinery were turned off.</p>

Stages of Development	Measures to be introduced	Details of measure	Explain how the measures will <u>avoid</u> the adverse effects on the integrity of the site.	Explain how the measures will <u>reduce</u> the adverse effects on the integrity of the site.	Provide evidence of how they will be implemented and by whom.
In-Combination with Existing or Planned Developments.	<p>No mitigation measure required for boat activity within the harbour.</p> <p>Ionad Pobal Machaire Rabhairtaigh located adjacent to the subject site granted permission to extend car park and children's play area work has not yet begun but it is unlikely to have any significant in combination effects with the project in question.</p>		<p>Inform local fishery council/industry about planned works to avoid disturbance.</p> <p>Awareness of timing of another project as not to cause disturbance by machinery.</p>	All commercial boating activity will be subject to industry guidelines and best practice.	<p>ECoW to liaise with fishing industry stakeholders within the subject site to identify if any increase in boat activity can be reduced.</p> <p>ECoW to follow mitigation measures and best practice unlikely to have significant effect.</p>

5.2 Conclusion of Assessment of Mitigation Measures

A comprehensive suite of mitigation measures are proposed for the avoidance of impacts to European sites.

With this complement of procedures in place, it is highly unlikely there will be significant levels of erosion on the beach as a result of the vehicles traversing the beach. There may be some low-level disturbance to habitat, e.g., compression or tracks left on the beach. Any potential disturbance effects will be temporary, quickly rectified by natural processes.

The implementation of traffic zones or tracks from the dredge site to the nourishment site on the foreshore of the SAC will significantly reduce the potential for adverse effects to this habitat.

It can therefore be concluded beyond reasonable scientific doubt that with the proper implementation of the proposed mitigation measures, the proposed Magheraroarty pier maintenance dredging, individually or in combination with other plans or projects will not have adverse effects on the integrity the European sites.

6 DISCUSSION, RECOMMENDATIONS AND DETERMINATION

6.1 Discussion

The NIS identifies and describes the likely significant effects of the proposed project on the existing environments of the following European sites:

- Ballyness Bay SAC, and
- Falcarragh to Meenlaragh SPA,

The impact of the proposed project on the conservation objectives of the above sites alone and in combination with other plans or projects is also assessed. The NIS sets out specific mitigation measures, considered to be standard industry best practice, which will avoid and reduce the potential impacts.

6.2 Recommendations

6.2.1 Recommended Licence Conditions

Based on this assessment and the conditions proposed by statutory consultees, RPS considers that the following conditions should be attached to a decision to consent the proposed project. The purpose of these conditions is to avoid, reduce and offset any significant effects on European sites as a result of the proposed project. Conditions which do not relate specifically to European sites are recommended in the Screening for EIA Report which accompanies this report to the DHLGH.

- The Licensee shall adhere to the project-specific guidance outlined in the NIS document.
- The following biosecurity measures are proposed:
 - All equipment intended for use at the site shall be clean, dry and free from debris prior to being brought to the site
 - If drying is not feasible: either power steam washed at a temperature of a minimum of 65°C or disinfected with an approved disinfectant (e.g. iodine based) correctly following all the manufacturers' instructions.
 - If equipment is moved off site during the project to be used on a different location/project the equipment is to be cleaned and disinfected prior to its reuse.

6.3 Determination

It can be concluded beyond reasonable scientific doubt that the proposed annual dredging and beach nourishment of Magheraroarty Pier (Dooey Strand), Gortahork, Co. Donegal, individually or in combination with other plans or projects will not have adverse effects on the integrity of the following European sites:

- Ballyness Bay SAC, and
- Falcarragh to Meenlaragh SPA.

It is noted that the Minister for DHLGH's formal determination will not be prejudiced by this review.

7 REFERENCES

European Commission (EC), 2002. Assessment of plans and projects significantly affecting Natura 2000 sites. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EC.

NPWS, 2014 (a). Conservation Objectives: Ballyness Bay SAC [001090]. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS, 2014 (b) Conservation objectives supporting document – Marine Habitats Ballyness Bay SAC [001090]. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS, 2014 (c) Conservation objectives supporting document – Coastal Habitats Ballyness Bay SAC [001090]. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS 2021. Conservation Objectives for Falcarragh to Meenlaragh SPA [004149]. Generic Version 8.0. Department of Housing, Local Government and Heritage.