To: Dara Lynott, Director

From: Martina Nolan ENVIRONMENTAL LICENSING PROGRAMME

Date: 27th November 2015

Re: Application for a Dumping at Sea Permit submitted by the Department of Agriculture, Food and the Marine, Western Engineering Division, 2nd Floor Custom House, Druid Lane, Galway. Permit Register No. S0022-01.

### Application Details

<table>
<thead>
<tr>
<th>Description of activity:</th>
<th>The application is for the loading and dumping offshore of a maximum of 94,090 tonnes of dredged material from Rossaveel Harbour, Rossaveel, Co. Galway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permit application submitted:</td>
<td>21st May 2015</td>
</tr>
<tr>
<td>Public notice:</td>
<td>29th May 2015 (Connacht Tribune &amp; Galway City Tribune)</td>
</tr>
<tr>
<td>Site visit:</td>
<td>9th July 2015</td>
</tr>
<tr>
<td>Submissions received:</td>
<td>None</td>
</tr>
<tr>
<td>Comments from notified consultees received:</td>
<td>1. Department of Arts, Heritage &amp; Gaeltacht</td>
</tr>
</tbody>
</table>
| Comments from Dumping at Sea Advisory Committee received: | 1. Marine Institute  
2. Inland Fisheries Ireland |
| Section 5(2) Notice issued: | 27th July 2015 & 7th August 2015 |
| Response to Section 5(2) received: | 27th August 2015 & 15th October 2015 |

### 1. Introduction

This application by the Department of Agriculture, Food and the Marine (DAFM) was received by the Agency on the 21st May 2015. It relates to the proposed loading and dumping at sea of dredged material from capital dredging works proposed to be carried out at Rossaveel Harbour, Co. Galway. Rossaveel Harbour is one of six Fishery Harbour Centres in Ireland under the ownership and management of DAFM. It is located on the north side of the north sound approaches to Galway Bay. The inner harbour is positioned on the north eastern shore of upper Cashla Bay (Figure 1) and is well sheltered. The existing harbour contains two piers which vary in length (60 m to 155 m) and depth - 3.7 m CD (Chart Datum) to - 5.8 m CD, accommodating commercial passenger ferries and cargo vessels. Berthing of domestic passenger vessels up to 40 metres length overall...
(LOA) occurs in a well sheltered dredged basin. A Small Craft Harbour (SCH)/Marina directly to the north of the ferry berth provides for approximately 40 pleasure craft of various sizes.

The proposed works are part of a project involving the construction of a 92 berth floating small craft harbour to the north of the existing harbour, with access gangway and ancillary infrastructure, construction of a 97 m long breakwater (plan area 5,866 m²), reclamation of 3,783 m² of foreshore for a car park and boulder revetment, and the capital dredging of the navigational channel and marina area. Planning permission for the project was granted by Galway County Council on the 2nd April 2015 (ref. 15/115).

Only the loading and dumping at sea of the dredged material are the subject of this application. The proposed loading areas are confined to a limited area to the north of the existing Rossaveel Fishery Harbour (Figure 2). Dumping of 94,090 tonnes of dredged spoil is proposed to take place at a dumping site in Galway Bay (Figure 3). The dumping site was previously permitted for the dumping of dredged material in 2004 and 2005 (permit ref. 367 and 369, respectively).

As the DAFM has statutory responsibility under the Fishery Harbour Centres Act 1968 as amended for the Fishery Harbour Centre at Rossaveel, the applicant has advised that a Foreshore Licence is not required for developments carried out by the Minister within the jurisdiction of the Fishery Harbour Centre.

2. Consideration of alternatives to dumping at sea

The material proposed to be dumped at sea is predominantly very soft organic SILT (see Section 4). The applicant investigated a number of potential re-use options for the dredged material including the use of the material in a local disused quarry with proposals to develop the quarry into a graveyard. It was concluded that the material was not suitable for this purpose. The applicant has submitted that there are no alternative uses for this soft material.

The capital dredging works will involve the removal of some 4,000 m³ of underlying granite rock to achieve the desired navigational depths. This rock will be excavated by drilling and blasting techniques. The applicant proposes to re-use 100% of the excavated rock in the proposed development and it will not be dumped at sea.

Given the physical properties of the dredged material that is the subject of this application, the Agency is satisfied that dumping at sea is the most viable option for this portion of the excavated material. To ensure the re-use excavated bedrock material is maximised, Condition 3.3 of the Recommended Permit (RP) prohibits the dumping at sea of any excavated bedrock removed by drilling, blasting or other mechanical means.

3. Operational description

The proposed activity consists of the loading and dumping at sea of 94,090 tonnes (72,377 m³) of dredged material from capital dredging during the construction of a new marina at Rossaveel Harbour. The new marina will be constructed to the north of the existing harbour. Figure 2 shows the location of the loading area. The total surface area to be dredged is 2.864 ha which is made up of very soft to soft grey and olive organic SILT, over soft slightly gravelly slightly sandy SILT, over granite rock. Only the soft overburden material is proposed to be dumped at sea, while any dredged rock will be reused on-site as outlined in Section 2 above.

It is proposed that loading will take place by a long reach backhoe excavator operating from a floating pontoon barge. The material will be loaded onto a hopper barge and disposed of at the dumping site at a disposal rate of a maximum of 1,950 tonnes per day.
i.e., one dumping event per day. A total of 48 trips will be required to dispose of the 94,090 tonnes of dredged spoil.

The proposed dumping site is a previously authorised spoil ground, in waters of 30-37 m depth, located ~ 6.3 km south of Rossaveel Harbour at the mouth of Cashla Bay (Figure 3). The loading and dumping operations will take an estimated two months to complete. The applicant proposes to commence the loading and dumping works in January 2016.

4. Characteristics of the material for disposal

In December 2014, ten sediment samples were taken from representative locations throughout the proposed loading area at Rossaveel Harbour and analysed for granulometric and chemical composition. Granulometrically the samples analysed consisted on average of very soft organic SILT (~ 75.7%), mixed with gravelly sandy SILT (~ 7.3%) and soft sandy gravelly SILT (~ 5.6%).

The chemical composition of the sediment samples analysed are summarised in Table 1 below, with reference to published Irish action levels. Sediments below the lower level (Class 1 sediments) are considered essentially clean and suitable for dumping at sea, sediments that exceed the upper level (Class 3 sediments) are considered unsuitable for conventional dumping at sea, while sediments between the upper and lower action levels (Class 2 sediments) must be assessed for dumping at sea using a weight of evidence approach.

Table 1: Composition of the material for disposal with reference to Irish Action Levels

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Class 1 sediments</th>
<th>Class 2 sediments</th>
<th>Class 3 sediments</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>6</td>
<td>4</td>
<td>0</td>
<td>Four samples marginally exceeded the lower action level for arsenic.</td>
</tr>
<tr>
<td>Cadmium</td>
<td>6</td>
<td>4</td>
<td>0</td>
<td>Four samples marginally exceeded the lower action level for cadmium.</td>
</tr>
<tr>
<td>Chromium</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>All samples essentially clean.</td>
</tr>
<tr>
<td>Copper</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>All samples essentially clean.</td>
</tr>
<tr>
<td>Nickel</td>
<td>0</td>
<td>10</td>
<td>0</td>
<td>All samples exceeded the lower action level for nickel.</td>
</tr>
<tr>
<td>Lead</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>All samples essentially clean.</td>
</tr>
<tr>
<td>Mercury</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>All samples essentially clean.</td>
</tr>
<tr>
<td>Zinc</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>All samples essentially clean.</td>
</tr>
<tr>
<td>TBT &amp; DBT Note 1</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>All samples essentially clean.</td>
</tr>
<tr>
<td>γ-HCH (Lindane) Note 2</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>All samples essentially clean.</td>
</tr>
<tr>
<td>HCB Note 3</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>All samples essentially clean.</td>
</tr>
<tr>
<td>PCB Note 4</td>
<td>9</td>
<td>1</td>
<td>0</td>
<td>One sample marginally exceeded the lower action level for PCB.</td>
</tr>
<tr>
<td>PCB Note 5</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>All samples essentially clean.</td>
</tr>
<tr>
<td>PAH Note 6</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>All samples essentially clean.</td>
</tr>
<tr>
<td>TEH Note 7</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>All samples essentially clean.</td>
</tr>
</tbody>
</table>

Note 1: Sum of tri-butyl and di-butyl tin.
Note 2: Gamma-hexachlorocyclohexane.
Note 3: Hexachlorobenzene.
Note 5: Sum of ICES 7 polychlorinated biphenyls (PCB 028, PCB 052, PCB 101, PCB 138, PCB 153, PCB 180, PCB 118).
Note 6: Sum of 16 polycyclic aromatic hydrocarbons (Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthenene, Anthracene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysame, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Dibenzo(ah)anthracene, Benzo(g,h,i)perylene, Indeno(123-cd)pyrene).
Note 7: Total extractable hydrocarbons.
In general in Irish marine sediments, nickel and arsenic are often above the lower Action Level even in areas where no source of contamination exists, reflecting natural background levels, whereas elevated concentrations of other parameters typically reflect inputs from anthropogenic sources. The sediments from Rossaveel Fishery Harbour demonstrated marginally elevated concentrations of nickel (all samples), arsenic (4 samples), cadmium (four samples) and PCBs (one sample). Following consultation with the Marine Institute (see Section 7 below), the Agency is satisfied that the sediment in question is suitable for dumping at sea.

5. Receiving environment and impact

As part of the assessment, the potential impacts of the proposed loading and dumping operations on the marine environment were examined (see Table 2 below).

Loading area
The proposed loading area at Rossaveel Harbour is within Cashla Bay coastal water body, which is at high status under the Water Framework Directive (WFD). The closest designated shellfish waters are Outer Galway Bay Indreabhán, ~ 8.2 km southeast of the proposed loading area. The closest designated bathing water is Trá an Dóilín, An Ceathrú Rua, ~ 5.3 km southwest of the loading area.

The location of the proposed loading area is not within a designated area for conservation, although there are a large number of European Sites in the surrounding area. The nearest designated European Site is the Connemara Bog Complex SAC (Site code no.002034) which is located ~ 1.3 km east of the development location. In addition, Kilkieran Bay and Islands SAC (Site code no. 002111) is ~ 3 km west, Connemara Bog Complex SPA (Site Code No. 004181) is ~ 5.5 km northeast, Inishmore Island SAC (Site Code No. 000213) is ~ 13.6 km southwest, Slyne Head to Ardmore Point Islands SPA (Site Code No. 004159) is ~ 15 km west, Inishmore SPA (Site Code No. 004152) is ~ 16.9 km southwest, Inishmaan Island SAC (Site Code No. 000212) is ~ 18.6 km south. The conservation interests of these Sites and the conditions included in the RP to ensure their protection are discussed in Section 6 of this report.

As the material is considered essentially clean, ref Section 4 above, the main potential impact on water quality from the proposed loading activity is localised silt plumes. Given the limited duration, scale and intermittent nature of the loading activity, the sediment plumes arising from the loading activities will be localised and temporary in nature and will be dispersed by tides and currents with no risk of impacting on the existing benthic faunal communities in the locality. The applicant has carried out surveys which have determined that the biotope within the bay is adapted to periodic disturbance and displays resultanty inherent high recoverability from disturbance.

The Recommended Permit (RP) requires the use of a backhoe excavator (Condition 3.5), to minimise the loss of dredged material into the water column and any subsequent generation of suspended solids or potential for subsequent deposition on the receiving environment. Condition 3.7 prohibits the overflow of dredged material from the vessel during loading and on voyages to and from the dumping site.

The applicant submitted a marine mammal risk assessment which concluded that the noise levels associated with the loading, disposal and vessel movements will not cause significant or permanent injury to marine mammals. The noise levels are of a level that could result in a disturbance/behavioural response by marine mammals. However, given the fact that the harbour area is used very infrequently by marine mammals and in very low numbers and the fact that the loading activity is infrequent and short, the risk to marine mammals during the loading operations is considered insignificant. Condition 4.6 of the RP requires that marine mammals are monitored, recorded and protected in accordance with National Parks & Wildlife Service (NPWS) guidelines.
The proposed offshore dumping site is located ~ 6.3 km to the south of the proposed loading area at the mouth of Cashla Bay. The dumping site was first permitted as a spoil ground in 2004 (permit ref. 367) and was last used as a dumping site by the DAFM in 2005 (permit ref. 369). The site extends over a rectangular area approximately 460 m x 580 m (26.7 ha) in waters of 30-37 m depth. The closest designated bathing water is Trá an Dóilín, Ceathrú Rua at Carrowroe, situated ~ 5.7 km northwest of the dumping site. The closest designated shellfish water is Outer Galway Bay Indreabhán which is ~ 6 km east of the proposed dumping site.

The location of the proposed dumping site is not within a designated area for conservation. The nearest European Site is Kilkieran Bay and Islands SAC (Site code no. 002111) which is located ~ 3.2 km to the west of the dumping site. In addition, Connemara Bog Complex SAC (Site code no. 002034) is ~ 5 km northeast and extends into the marine environment, Inishmore Island SAC (Site Code 000213) is ~ 7 km southwest, Connemara Bog Complex SPA (Site Code No. 004181) is ~ 9.5 km northeast, Inishmore SPA (Site Code No. 004152) is ~ 10 km southwest and Inishmaan Island SAC (Site Code No. 000212) is ~ 11.7 km south. The conservation objectives and importance of these Sites are outlined in Section 6 below.

The dumping site is within the Aran Islands, Galway Bay, Connemara (HAs 29;31) coastal water body, which is at high status under the Water Framework Directive. The site is not considered to having any significant cultural or historical importance; it is not located within any main shipping channels. An Archaeological Impact Assessment has been carried out for the site and confirmed that the dumping site contains no evidence of archaeological remains.

A sea bed survey carried out by the applicant found that the seafloor of the spoil ground was biologically active and ranged in composition from fine sand formed into small sand ripples to very coarse sand waves with fine sand accumulated in the troughs of these sand waves. The benthic community is characterised by species capable of recolonizing quickly after repeated dumping events.

Sediment modelling, undertaken by the applicant predicts that, due to the high ambient current velocities and low settling velocities of the fine dredged material, there will be significant dispersal of the material post dumping. It will take approximately three hours for the material to disperse and settle post-dumping with the maximum deposited material thickness on the sea bed of 60 mm outside the dump site, immediately adjacent to the boundary. Deposition of material will occur up to a maximum of 2.1 km west of the dumping site, 2.0 km east of the site, 1.5 km north of the site and 1.5 km south of the site. The modelling predicted that the dumped material will not encroach upon any aquaculture or European Sites.

A marine mammal risk assessment submitted by the applicant found that marine mammal activity in the vicinity of the proposed dumping location is transient and sporadic. While the disposal of dredged material will give rise to sediment plumes, this is not expected to interfere with the species mobility or capacity to hunt. Any displacement of marine mammals will be localized and temporary.

The RP contains a number of conditions aimed at minimising the impact of the dumping activity on the receiving environment. Condition 1.6 & Schedule A limits the maximum daily rate of disposal limited to 1,950 tonnes per day, while Condition 4.6 requires that marine mammals are monitored, recorded and protected in accordance with National Parks & Wildlife Service (NPWS) guidelines. As there are no sensitive receptors present in the area surrounding the activities and sediment dispersion modelling has predicted that
the closest sediment deposition will occur ~ 1.2 km from the nearest European Site at a maximum sediment depth of 2 mm and therefore will not adversely affect the European Sites, turbidity monitoring is not a requirement of the permit.

### Table 2 Characteristics and sensitivity of the loading area and dumping site

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Classification</th>
<th>Comment</th>
<th>Classification</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receiving waterbody name &amp; type</td>
<td>Casla Bay (IE_WE_190_0000)</td>
<td>WFD Coastal Waterbody</td>
<td>Aran Islands, Galway Bay, Connemara (HAS 29;31) IE_WE_010_0000</td>
<td>WFD Coastal Waterbody</td>
</tr>
<tr>
<td>WFD overall status</td>
<td>High</td>
<td>WFD Status 2010-2012 (Extrapolated)</td>
<td>High</td>
<td>WFD Status 2010-2012 (Extrapolated)</td>
</tr>
<tr>
<td>Risk Status/ Pressures</td>
<td>Point source WWTP, Section 4s, WTPS &amp; WWTP</td>
<td></td>
<td>Point source WWTP, Section 4s, WTP</td>
<td></td>
</tr>
<tr>
<td>Bathing waters</td>
<td>None</td>
<td>Closest is ~ 5.3 km east of the mouth of Cashla Bay site at Trá an Dóilín, An Ceathrú Rua.</td>
<td>None</td>
<td>Closest is ~ 5.7 km northwest of the dumping site at Trá an Dóilín, An Ceathrú Rua.</td>
</tr>
<tr>
<td>Shellfish waters</td>
<td>None</td>
<td>Closest is Outer Galway Bay Indreabháin ~ 8.2 km southeast of the loading area.</td>
<td>None</td>
<td>Closest is Outer Galway Bay Indreabháin ~ 6 km east of the dumping site.</td>
</tr>
<tr>
<td>Resource use</td>
<td>The harbour is used by passenger ferries and commercial fishing vessels.</td>
<td></td>
<td>The passenger ferry route is 0.3km from the dumping site.</td>
<td></td>
</tr>
<tr>
<td>Amenity value</td>
<td>Pleasure craft &amp; fishing/angling</td>
<td></td>
<td>Pleasure craft &amp; fishing</td>
<td></td>
</tr>
<tr>
<td>Cultural resources</td>
<td>No known archaeological remains.</td>
<td></td>
<td>No known:archaeological remains.</td>
<td></td>
</tr>
<tr>
<td>SAC</td>
<td>None</td>
<td>The loading area is located 1.3 km west of Connemara Bog Complex SAC (002034), 3 km east of Kilkieran Bay and Islands SAC (002111) &amp; 13.6 km northeast of Inishmore Island SAC (000213).</td>
<td>None</td>
<td>The dumping site is located 3.2 km east of Kilkieran Bay &amp; Islands SAC (002111), 5 km southwest of Connemara Bog Complex SAC (002034), 7 km northeast of Inishmore Island SAC (000213), 10 km northeast of Inishmore &amp; 11.7 km north of Inishmaan Island SAC (000212).</td>
</tr>
<tr>
<td>SPA</td>
<td>None</td>
<td>The loading area is located 5.5 km southwest of Connemara Bog Complex SPA (004181) &amp; 15 km east of Slyne Head to Ardmore Point Islands SPA (004159).</td>
<td>None</td>
<td>The dumping site is located 9.5 km southwest of Connemara Bog Complex SPA (Site 004181).</td>
</tr>
</tbody>
</table>
6. Compliance with EU Directives and international conventions

In considering the application, regard was had to the requirements of relevant legislation:

London Convention (and Protocol) and OSPAR Convention

Dumping of dredged material at sea is regulated internationally by the London Convention 1972 (including the 1996 London Protocol) and the Convention for the Protection of the Marine Environment of the North East Atlantic 1992 (the 'OSPAR Convention'). Contracting parties are required to appropriately regulate dumping at sea in accordance with the relevant adopted criteria, guidelines and procedures and to report annually to the OSPAR Commission on the nature and quantities of material dumped at sea. The RP, as drafted, fulfils the requirements of the OSPAR and London Conventions. The suitability of the material for dumping at sea as opposed to alternative means of recovery or disposal has been assessed using a weight of evidence approach in accordance with OSPAR and London Convention guidelines, with particular reference to the upper and lower action levels for various substances published by the Marine Institute. Condition 6.7 of the RP requires the permit holder to submit an annual OSPAR dumping report as part of the FER.

Water Framework Directive [2000/60/EC]

In assessing the application, regard was had to the potential impact of the proposed loading and dumping operations on the affected coastal water bodies, Casla Bay and Aran Islands, Galway Bay, Connemara (HAs 29;31), meeting their objectives under the WFD. Taking into consideration the scale and duration of the operations, the characteristics of the dredged material, the characteristics of the receiving environments and the conditions included in the RP designed to mitigate against increased suspended solids, the proposed operations are not considered likely to impact on the achievement of the WFD objectives for the affected coastal waters or shellfisheries.

The nearest designated shellfish area, Outer Galway Bay Indreabhán, is situated ~ 6 km due east of the dumping site. These shellfish waters are protected under Article 6 and paragraph 1(ii) of Annex IV of the WFD. Taking into consideration the distances involved, the results of sediment dispersion modelling, the characteristics of the receiving environment and the essentially clean nature of the sediments, the proposed loading and dumping activities are not anticipated to have an impact on shellfish growing waters at Outer Galway Bay Indreabhán. The Department of Agriculture, Food and the Marine and the Sea Fisheries Protection Authority were consulted and made no comments on the proposed loading or dumping operations.

Bathing Water Directive [2006/7/EC]

The closest bathing water is An Trá Mór, Coill Rua, Indreabhán, which is situated ~ 15 km northeast of the dumping site. In the Agency's report on 'Bathing Water Quality in Ireland – A Report for the Year 2014', An Trá Mór bathing waters were deemed to comply with EU Mandatory and Guide Values (Excellent Water Quality). Due to the distance involved, the characteristics of the receiving environment and the essentially clean nature of the sediments, the proposed loading and dumping activities are not anticipated to have any significant impact on bathing water quality.


The proposed loading area at Rossaveel Harbour is not within a designated area for conservation. The nearest designated European Sites are the Connemara Bog Complex SAC (Site code no.002034) located ~ 1.3 km east, Kilkieran Bay and Islands SAC (Site code no. 002111) ~ 3 km west, Connemara Bog Complex SPA (Site Code No. 004181)
5.5 km northeast, Inishmore Island SAC (Site Code No. 000213) ~ 13.6 km southwest, Slyne Head to Ardmore Point Islands SPA (Site Code No. 004159) ~ 15 km west, Inishmore SPA (Site Code No. 004152) ~ 16.9 km southwest and Inishmaan Island SAC (Site Code No. 000212) located ~ 18.6 km to the south of the proposed loading area.

The Connemara Bog Complex SAC (002034) is protected for priority habitats listed under Annex I of the Habitats Directive and for the protection of species listed under Annex II of the same directive. The site is also designated as an SPA (Connemara Bog Complex SPA (004181)) under the Birds Directive for the conservation of wild birds. Kilkieran Bay and Islands SAC (002111) is protected for priority habitats listed under Annex I of the Habitats Directive and for the protection of species listed under Annex II of the same directive. This SAC overlaps the Slyne Head to Ardmore Point Islands SPA (004159) which is designated an SPA under the Birds Directive for the conservation of wild birds. Inishmore Island SAC (000213) is protected for priority habitats listed under Annex I of the Habitats Directive and for the protection of species listed under Annex II of the same directive. The site is also designated an SPA (Inishmore SPA (004152)) under the Birds Directive for the conservation of wild birds. Inishmaan Island SAC (000212) is protected for priority habitats listed under Annex I of the Habitats Directive. Appendix 1 lists the European Sites assessed, their associated qualifying interests and conservation objectives along with the assessment of the effects of the activity on the European Sites.

There are no European Sites in the immediate vicinity of the dumping site; the nearest is Kilkieran Bay and Islands SAC ~ 3 km west, Connemara Bog Complex SAC ~ 5 km northeast of the dump site and Connemara Bog Complex SPA ~ 9.5 km northeast of the dump site. The qualifying interests of these sites are outlined in Appendix 1.

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the proposed activities, individually or in combination with other plans or projects are likely to have a significant effect on any European Site. In this context, particular attention was paid to the European Sites at Connemara Bog Complex SAC (002034), Connemara Bog Complex SPA (004181), Kilkieran Bay and Islands SAC (002111), Slyne Head to Ardmore Point Islands SPA (004159), Inishmore Island SAC (000213), Inishmore SPA (004152) and Inishmaan Island SAC (000212).

The Agency considered, for the reasons set out below, that the proposed activities are not directly connected with or necessary to the management of any European Site and that it cannot be excluded, on the basis of objective information, that the proposed activities, individually or in combination with other plans or projects, will have a significant effect on any European Site and accordingly determined that an Appropriate Assessment of the proposed activities was required, and for this reason determined to require the applicant to submit a Natura Impact Statement.

This determination was based on the lack of information relating to sediment dispersion and deposition rates associated with the proposed loading and dumping activities and their potential to give rise to significant effects on the qualifying interests of the European Sites.

An Inspector’s Appropriate Assessment has been completed and has determined, based on best scientific knowledge in the field and in accordance with the European Communities (Birds and Natural Habitats) Regulations 2011 as amended, pursuant to Article 6(3) of the Habitats Directive, that the proposed activities, individually or in combination with other plans or projects, will not adversely affect the integrity of any European Site, in particular Connemara Bog Complex SAC (002034), Connemara Bog Complex SPA (004181), Kilkieran Bay and Islands SAC (002111), Slyne Head to Ardmore Point Islands SPA (004159), Inishmore Island SAC (000213), Inishmore SPA (004152)
and Inishmaan Island SAC (000212), having regard to their conservation objectives and will not affect the preservation of these sites at favourable conservation status if carried out in accordance with the Recommended Permit and the conditions attached hereto for the following reasons:

- Sediment analysis has demonstrated that the material in question consists of essentially clean sediment of natural origin;
- Condition 1.6 & Schedule A of the RP restricts the quantity of material to be loaded and dumped at sea is limited to 94,090 tonnes, with the maximum daily rate of disposal limited to 1,950 tonnes per day;
- The duration of the activity is short (maximum two months);
- Sediment dispersion modelling has predicted that the closest sediment deposition will occur ~ 1.2 km from the nearest European Site at a maximum sediment depth of 2mm;
- Conditions 3.5 and 3.7 of the RP, require the permit holder to manage the loading activities to ensure the release of suspended solids into the water column is minimised;
- Condition 4.6 of the RP requires that the permit holder appoint a dedicated Marine Mammal Observer to monitor, record and protect marine mammals in accordance with NPWS guidelines.

In light of the foregoing reasons no reasonable scientific doubt remains as to the absence of adverse effects on the integrity of the following European Sites: Connemara Bog Complex SAC (002034), Connemara Bog Complex SPA (004181), Kilkieran Bay and Islands SAC (002111), Slyne Head to Ardmore Point Islands SPA (004159), Inishmore Island SAC (000213), Inishmore SPA (004152) and Inishmaan Island SAC (000212).

Environmental Liabilities Directive [2004/35/EC]
Condition 7.3 of the RP satisfies the requirements of the Environmental Liabilities Directive.

7. Advisory Committee Comments

A Dumping at Sea Advisory Committee has been established under Section 41 of the EPA Act 1992 as amended, comprising of representatives from relevant states bodies (the Marine Institute, Inland Fisheries Ireland, the Sea Fisheries Protection Authority), industry (the Irish Ports Association), the NGO sector (the Irish Environmental Pillar) and an engineering expert. The role of the Advisory Committee is to provide consultation and technical advice to the Agency on aspects of the dumping at sea permitting function, in accordance with its terms of reference. One member of the Advisory Committee submitted comments on this application.

- Marine Institute (MI) commented that the sediment chemistry of the material is unlikely to cause adverse impact to the marine environment in the vicinity of the dumpsite.

Agency Response: The MI's comments have been taken into account during the drafting of the RP.

8. Comments from notified consultees

The following comments were received from notified consultees:

- Department of Arts, Heritage and the Gaeltacht (DAHG)
The DAHG recommended that the mitigation measures included in Section 2.6 of "Rossaveal Dredged Spoil Disposal Habitats Directive Screening Report" be applied in full.
**Agency Response:** The Agency has reviewed Section 2.6 of the “Rossaveal Dredged Spoil Disposal Habitats Directive Screening Report” which refers to Best Practice Operating Procedures During Construction. These matters have been included in the conditions attached to planning permission (Ref No. 15/115) granted by Galway County Council to Minister of DAFM, and are outside the scope of the Dumping at Sea permit.

9. Submissions

No submissions were received.

10. Site Visit

A site visit to Rossaveel Harbour was conducted on the 9th July 2015. During the visit, EPA Inspectors Tara Higgins & Martina Nolan met with Mr Gerard Egan, Divisional Engineer, DAFM and Captain John C. Donnelly, Harbour Master, Rossaveel Harbour. A tour of the harbour was conducted during which the proposed loading area within Cashla Bay was identified, as was the location of the new berthing facilities and ancillary developments.

11. Cross-office liaison

Advice and guidance issued by the Dumping at Sea Technical Working Group (TWG) was followed in the assessment of this application. Advice and guidance issued by the TWG is prepared through a detailed cross-office co-operative process, with the concerns of all sides taken into account. The Board of the Agency has endorsed the advice and guidance issued by the TWG for the use by licensing inspectors in the assessment of dumping at sea permit applications.

**Recommended Permit (RP)**

The RP, as drafted, permits the loading and dumping of dredged material at sea subject to the conditions set out in the RP.

**Charges**

The RP proposes that the permit holder shall pay to the Agency a sum as the Agency from time to time determines based on the enforcement effort required for the loading and dumping at sea operations.

**Recommendation**

I recommend that a Final Permit be issued subject to the conditions and for the reasons as set out in the attached Recommended Permit.

Signed,
Martina Nolan
Inspector
Figure 1: Location of the loading area
Figure 2: Loading area

Figure 3: Location of the dumping site
Appendix 1:

It was not necessary to consider any European Sites outside of this 15 km distance as any such sites fall well outside of the potential zone of influence of the proposed activities. Those within an approximate 15 km radius include:

<table>
<thead>
<tr>
<th>European Site (site code)</th>
<th>Distance/Directio n from loading and dumping site.</th>
<th>Qualifying interests (* denotes a priority habitat)</th>
<th>Conservation objectives</th>
<th>Assessment</th>
</tr>
</thead>
</table>
| 1 Connemara Bog Complex SAC (002034) | ~ 1.3 km east from the loading area in Cashla Bay and ~ 5 km northeast of the dumping site in the Aran Island, Galway Bay, Connemara (Has 29;31) | **Habitats:**  
- Water Dependent  
  1150 Coastal lagoons*  
  1170 Reefs  
  3110 Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)  
  3130 Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea  
  3160 Natural dystrophic lakes and ponds  
  3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation  
  4010 Northern Atlantic wet heaths with Erica tetralix  
  6410 Molinia Meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)  
  7130 Blanket bogs (* if active bog)  
  7140 Transition mires and quaking bogs  
  7150 Depressions on peat substrates of the Rhynchosporion  
  7230 Alkaline fens  
- Non-Water Dependent  
  4030 European dry heaths  
  91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles  
**Species:**  
- Water Dependent  
  1065 Marsh Fritillary *Euphydryas aurinia*  
  1106 Salmon *Salmo salar*  
  1355 Otter *Lutra lutra*  
  1833 Slender Naiad *Najas flexilis* | NPWS (2015) Conservation Objectives: Connemara Bog Complex SAC [002034]. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. (dated 28/10/15) | Sediment dispersion modelling has predicted that the closest sediment deposition will occur ~ 1.2 km from the nearest European Site at a maximum sediment depth of 2 mm and therefore will not adversely affect this European Site. In addition to the above, conditions have been included in the RP to control the release of sediment into the receiving environment. These conditions include Condition 1.6 & Schedule A which limit the quantity of material permitted to be dumped at sea to 94,090 tonnes, with a maximum daily rate of disposal limited to 1,950 tonnes per day. Conditions 3.5 & 3.7 ensure that the loading is carried out in a manner so as to prevent the release of suspended solids into the water column is minimised. Condition 4.6 of the RP requires that the permit holder appoints a dedicated Marine Mammal Observer to monitor, record and protect marine mammals in accordance with NPWS guidelines. |
|   | Habitat/Species | Potential Impacts | Sediment dispersion modelling has predicted that the closest sediment deposition will occur ~ 1.2 km from the nearest European Site at a maximum sediment depth of 2 mm and therefore will not adversely affect this European Site. | Sediment dispersion modelling has predicted that the closest sediment deposition will occur ~ 1.2 km from the nearest European Site at a maximum sediment depth of 2 mm and therefore will not adversely affect this European Site.<br><br>In addition to the above, conditions have been included in the RP to control the release of sediment into the receiving environment. These conditions include Condition 1.6 & Schedule A which limit the quantity of material permitted to be dumped at sea to 94,090 tonnes, with a maximum daily rate of disposal limited to 1,950 tonnes per day.<br><br>Conditions 3.5 & 3.7 ensure that the loading is carried out in a manner so as to prevent the release of suspended solids into the water column is minimised. Condition 4.6 of the RP requires that the permit holder appoints a dedicated Marine Mammal Observer to monitor, record and protect marine mammals in accordance with NPWS guidelines. | Sediment dispersion modelling has predicted that the closest sediment deposition will occur ~ 1.2 km from the nearest European Site at a maximum sediment depth of 2 mm and therefore will not adversely affect this European Site.<br><br>In addition to the above, conditions have been included in the RP to control the release of sediment into the receiving environment. These conditions include Condition 1.6 & Schedule A which limit the quantity of material permitted to be dumped at sea to 94,090 tonnes, with a maximum daily rate of disposal limited to 1,950 tonnes per day.<br><br>Conditions 3.5 & 3.7 ensure that the loading is carried out in a manner so as to prevent the release of suspended solids into the water column is minimised. Condition 4.6 of the RP requires that the permit holder appoints a dedicated Marine Mammal Observer to monitor, record and protect marine mammals in accordance with NPWS guidelines. |
|---|---|---|---|---|
| 2 | Kilkieran Bay and Islands SAC (002111) | ~ 3 km west from the loading area in Cashla Bay and ~ 3.2 km west of the dumping site in the Aran Island, Galway Bay, Connemara (Has 29;31) | Habitats:<br>Water Dependent<br>1140 Mudflats and sandflats not covered by seawater at low tide<br>1150 Coastal lagoons*<br>1160 Large shallow inlets and bays<br>1170 Reefs<br>1330 Atlantic salt meadows (Glaucoc-Puccinellietalia maritimae)<br>1410 Mediterranean salt meadows (Juncetalia maritimae)<br>21A0 Machairs (* in Ireland)<br><br>Non-Water Dependent<br>6510 Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)<br><br>Species:<br>Water Dependent<br>1355 Otter Lutra lutra<br>1365 Harbour seal Phoca vitulina<br>1833 Slender Naiad Najas flexilis | NPWS (2014) Conservation Objectives: Kilkieran Bay and Islands SAC 002111. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. (dated 04/02/2014) | Sediment dispersion modelling has predicted that the closest sediment deposition will occur ~ 1.2 km from the nearest European Site at a maximum sediment depth of 2 mm and therefore will not adversely affect this European Site. | Sediment dispersion modelling has predicted that the closest sediment deposition will occur ~ 1.2 km from the nearest European Site at a maximum sediment depth of 2 mm and therefore will not adversely affect this European Site.<br><br>In addition to the above, conditions have been included in the RP to control the release of sediment into the receiving environment. These conditions include Condition 1.6 & Schedule A which limit the quantity of material permitted to be dumped at sea to 94,090 tonnes, with a maximum daily rate of disposal limited to 1,950 tonnes per day.<br><br>Conditions 3.5 & 3.7 ensure that the loading is carried out in a manner so as to prevent the release of suspended solids into the water column is minimised. Condition 4.6 of the RP requires that the permit holder appoints a dedicated Marine Mammal Observer to monitor, record and protect marine mammals in accordance with NPWS guidelines. |
| 3 | Connemara Bog Complex SPA (004181) | ~ 5.5 km northeast from the loading area in Cashla Bay and ~ 9.5 km northeast of the dumping site in the Aran Island, Galway Bay, Connemara (Has 29;31) | Species:<br>Water Dependent<br>A017 Cormorant Phalacrocorax carbo<br>A140 Golden Plover Pluvialis apricaria<br>A182 Common Gull Larus canus<br><br>Non-Water Dependent<br>A098 Merlin Falco columbarius | NPWS (2015) Conservation objectives for Connemara Bog Complex SPA [004181]. Generic Version 4.0. Department of Arts, Heritage and the Gaeltacht. (dated 13/02/2015) | Sediment dispersion modelling has predicted that the closest sediment deposition will occur ~ 1.2 km from the nearest European Site at a maximum sediment depth of 2 mm and therefore will not adversely affect this European Site. | Sediment dispersion modelling has predicted that the closest sediment deposition will occur ~ 1.2 km from the nearest European Site at a maximum sediment depth of 2 mm and therefore will not adversely affect this European Site.<br><br>In addition to the above, conditions have been included in the RP to control the release of sediment into the receiving environment. These conditions include Condition 1.6 & Schedule A which limit the quantity of material permitted to be dumped at sea to 94,090 tonnes, with a maximum daily rate of disposal limited to 1,950 tonnes per day.<br><br>Conditions 3.5 & 3.7 ensure that the loading is carried out in a manner so as to prevent the release of suspended solids into the water column is minimised. Condition 4.6 of the RP requires that the permit holder appoints a dedicated Marine Mammal Observer to monitor, record and protect marine mammals in accordance with NPWS guidelines. |
| 4 | Inishmore Island SAC (000213) | ~ 13.6 km southwest from the loading area in Cashla Bay and ~ 7 | Habitats:<br>Water Dependent<br>1150 Coastal lagoons*<br>1170 Reefs<br>1220 Perennial vegetation of stony banks | NPWS (2014) Conservation Objectives: Inishmaan Island SAC [000212]. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. (dated 04/02/2014) | Sediment dispersion modelling has predicted that the closest sediment deposition will occur ~ 1.2 km from the nearest European Site at a maximum sediment depth of 2 mm and therefore will not adversely affect this European Site. | Sediment dispersion modelling has predicted that the closest sediment deposition will occur ~ 1.2 km from the nearest European Site at a maximum sediment depth of 2 mm and therefore will not adversely affect this European Site. | Sediment dispersion modelling has predicted that the closest sediment deposition will occur ~ 1.2 km from the nearest European Site at a maximum sediment depth of 2 mm and therefore will not adversely affect this European Site.<br><br>In addition to the above, conditions have been included in the RP to control the release of sediment into the receiving environment. These conditions include Condition 1.6 & Schedule A which limit the quantity of material permitted to be dumped at sea to 94,090 tonnes, with a maximum daily rate of disposal limited to 1,950 tonnes per day.<br><br>Conditions 3.5 & 3.7 ensure that the loading is carried out in a manner so as to prevent the release of suspended solids into the water column is minimised. Condition 4.6 of the RP requires that the permit holder appoints a dedicated Marine Mammal Observer to monitor, record and protect marine mammals in accordance with NPWS guidelines. | Sediment dispersion modelling has predicted that the closest sediment deposition will occur ~ 1.2 km from the nearest European Site at a maximum sediment depth of 2 mm and therefore will not adversely affect this European Site. | Sediment dispersion modelling has predicted that the closest sediment deposition will occur ~ 1.2 km from the nearest European Site at a maximum sediment depth of 2 mm and therefore will not adversely affect this European Site. | Sediment dispersion modelling has predicted that the closest sediment deposition will occur ~ 1.2 km from the nearest European Site at a maximum sediment depth of 2 mm and therefore will not adversely affect this European Site.
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<td><strong>Slyne Head to Ardmore Point Islands SPA (004159)</strong></td>
<td><strong>Species:</strong> Water Dependent &lt;br&gt;A045 Barnacle Goose <em>Branta leucopsis</em>  &lt;br&gt;A191 Sandwich Tern <em>Sternula sandvicensis</em>  &lt;br&gt;A194 Arctic Tern <em>Sternula paradisaea</em>  &lt;br&gt;A195 Little Tern <em>Sternula albifrons</em></td>
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<td>~ 15 km west from the loading area in Cashla Bay and ~ 16.3 km northwest of the dumping site in the Aran Island, Galway Bay, Connemara (Has 29;31)</td>
<td><strong>Species:</strong> Water Dependent &lt;br&gt;A045 Barnacle Goose <em>Branta leucopsis</em>  &lt;br&gt;A191 Sandwich Tern <em>Sternula sandvicensis</em>  &lt;br&gt;A194 Arctic Tern <em>Sternula paradisaea</em>  &lt;br&gt;A195 Little Tern <em>Sternula albifrons</em></td>
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<td><strong>Inishmore</strong></td>
<td><strong>Species:</strong> Water Dependent &lt;br&gt;A045 Barnacle Goose <em>Branta leucopsis</em>  &lt;br&gt;A191 Sandwich Tern <em>Sternula sandvicensis</em>  &lt;br&gt;A194 Arctic Tern <em>Sternula paradisaea</em>  &lt;br&gt;A195 Little Tern <em>Sternula albifrons</em></td>
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<td>~ 16.9 km</td>
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| km southwest of the dumping site in the Aran Island, Galway Bay, Connemara (Has 29;31) | 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts  <br>2110 Embryonic shifting dunes  <br>2120 Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes)  <br>2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)*  <br>2170 Dunes with *Salix repens ssp. argentea* (Salicion arenariae)  <br>2190 Humid dune slacks  <br>21A0 Machairs (* in Ireland)  <br>8330 Submerged or partially submerged sea caves |
| **Non-Water Dependent** | **Water Dependent** |
| 4030 European dry heaths  <br>4060 Alpine and Boreal heaths  <br>6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)  <br>6510 Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*)  <br>8240 Limestone pavements* |

| Water Dependent | Sediment dispersion modelling has predicted that the closest sediment deposition will occur ~ 1.2 km from the nearest European Site at a maximum sediment depth of 2 mm and therefore will not adversely affect this European Site. In addition to the above, conditions have been included in the RP to control the release of sediment into the receiving environment. These conditions include Condition 1.6 & Schedule A which limit the quantity of material permitted to be dumped at sea to 94,090 tonnes, with a maximum daily rate of disposal limited to 1,950 tonnes per day. Conditions 3.5 & 3.7 ensure that the loading is carried out in a manner so as to prevent the release of suspended solids into the water column is minimised. Condition 4.6 of the RP requires that the permit holder appoints a dedicated Marine Mammal Observer to monitor, record and protect marine mammals in accordance with NPWS guidelines. |
| SPA (004152) | Closest sediment deposition will occur ~ 1.2 km from the nearest European Site at a maximum sediment depth of 2 mm and therefore will not adversely affect this European Site.
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| --- | --- |
| Inishmaan Island SAC (000212) | Sediment dispersion modelling has predicted that the closest sediment deposition will occur ~ 1.2 km from the nearest European Site at a maximum sediment depth of 2 mm and therefore will not adversely affect this European Site.
In addition to the above, conditions have been included in the RP to control the release of sediment into the receiving environment. These conditions include Condition 1.6 & Schedule A which limit the quantity of material permitted to be dumped at sea to 94,090 tonnes, with a maximum daily rate of disposal limited to 1,950 tonnes per day.
Conditions 3.5 & 3.7 ensure that the loading is carried out in a manner so as to prevent the release of suspended solids into the water column is minimised.
Condition 4.6 of the RP requires that the permit holder appoints a dedicated Marine Mammal Observer to monitor, record and protect marine mammals in accordance with NPWS guidelines. |
| **Habitats:** | **Water Dependent**
- A188 Kittiwake *Rissa tridactyla*
- A194 Arctic Tern *Sterna paradisaea*
- A195 Little Tern *Sterna albifrons*
- A199 Guillemot *Uria aalge*

**Non-Water Dependent**
- A147 European dry heaths
- A190 European dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)
- A251 Limestone pavements* |
| Inishmore SPA (004152) | Closest sediment deposition will occur ~ 1.2 km from the nearest European Site at a maximum sediment depth of 2 mm and therefore will not adversely affect this European Site.
In addition to the above, conditions have been included in the RP to control the release of sediment into the receiving environment. These conditions include Condition 1.6 & Schedule A which limit the quantity of material permitted to be dumped at sea to 94,090 tonnes, with a maximum daily rate of disposal limited to 1,950 tonnes per day.
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| 7 Inishmaan Island SAC (000212) | Sediment dispersion modelling has predicted that the closest sediment deposition will occur ~ 1.2 km from the nearest European Site at a maximum sediment depth of 2 mm and therefore will not adversely affect this European Site.
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