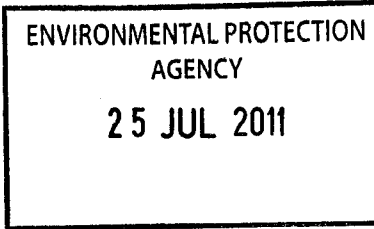


S0011-01



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20 July 2011



Environmental Licensing Programme  
Office of Climate, Licensing & Resource Use  
Environmental Protection Agency  
PO Box 3000  
Johnstown Castle Estate  
Wexford

CONSULTING ENGINEERS  
Civil Engineering  
Structural Engineering  
Traffic & Transportation  
CDM Co-ordination  
Project Management

For the attention of Mr Donal Grant

Dear Donal

**DUMPING AT SEA APPLICATION –BUNCRANA HARBOUR, CO. DONEGAL**

Further to our email of 19 July 2011, and your letter of 23 June 2011, we, on behalf of our client, Donegal County Council, revert with the following information as requested for the Dumping at Sea application for Buncrana Harbour, County Donegal.

We enclose 2 No. hard copies of an Assessment of Plans and Projects Significantly affecting Natura 2000 which addresses the Likelihood of Significant Effects of Dumping and Loading Activities on the Lough Swilly SAC (Site Code 002287).

We clarify that the correct quantity of material dumped for the calendar year 2009 is 3,916m<sup>3</sup>, which is 7,832 tonnes (based on 2t/m<sup>3</sup>). We have enclosed the 2009 OSPAR report for your information. We have requested tonnages for the 2010 dredging campaign and will forward these to the EPA upon receipt.

The information provided in Section D.1 of the application is based on the knowledge and information we have at hand. As we have discussed, this is a very small maintenance dredging operation that has been undertaken at Buncrana over previous years with no evidence of significant impacts on the SAC. The same dumpsite was used for the 2010 dredging campaign and is located a short distance from the location of the material which is to be removed. The assessment on the likelihood of impacts on the environment, with supporting information, states that it is unlikely the proposed maintenance dredging campaign will have a significant impact on the SAC. We believe this assessment should provide appropriate details in response to Section D.

We have rechecked the coordinates submitted with the application having converted them from OSI (ITM) to ETRF89 GPS Co-ordinates using the OSI website converter. These have been checked again against Admiralty Chart 2697 and are as what was provided in the application. Please provide details of your method of checking to clarify this issue.

Doran Consulting Limited  
Registered Office  
Malone Exchange  
226 Lisburn Road  
Belfast BT9 6GE

T 028 9038 1321  
F 028 9066 3255  
E mail@doran.co.uk  
W www.doran.co.uk



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OHS 507887  
EMS 75248



NI Reg No. NI055181



As discussed, the small quantity of compacted material to be removed is, as we understand, a result of continuous ferry movements in and out of the harbour over an extended period of time. The material is believed to be of similar composition to that of the rest of the harbour, however is located in an area close to where the ferry embarks and disembarks, and as a result of the continuous action of the ferry the material has consolidated. It is located adjacent to the open wharf part of the pier and therefore the turbulence induced from the ferry has created a more solid compacted small quantity of material in this area. This material was not removed with the plough dredger in the 2010 dredging campaign, and Donegal County Council wish to remove it this year, ensuring the navigable depths for the RNLI Lifeboat are achieved within the approach channel.

We have been unable to get an original copy of the map in Section D.1, however, we have enclosed the Department of the Environment, Community and Local Government map showing the extent of Designated Shellfish Area in Lough Swilly. The map shows that the location of the dumping site is outside the limits of the designated area. For the small quantity of material being disposed of, we do not believe the loading and dumping activities will have any impact of the aquaculture of the area.

We trust you find this information satisfactory however, should you require any further information please contact our Miss Katharine Grant or the undersigned.

Yours sincerely

Campbell Davis

**Doran Consulting**

Our ref: kag/061103B

encs

cc Mr Brian Cullen, Donegal County Council (Letter and report)  
Mr Vincent Lynn, Donegal County Council (Letter and report)

### OSPAR Dredging Record

Pier/ Harbour: **BUNCRANA HARBOUR, CO. DONEGAL**  
Dates: 30 JUNE 2009 - 14 AUGUST 2009  
Total Quantity Dredged (m<sup>3</sup>) 3916  
Disposal at Sea Permit No.: 379

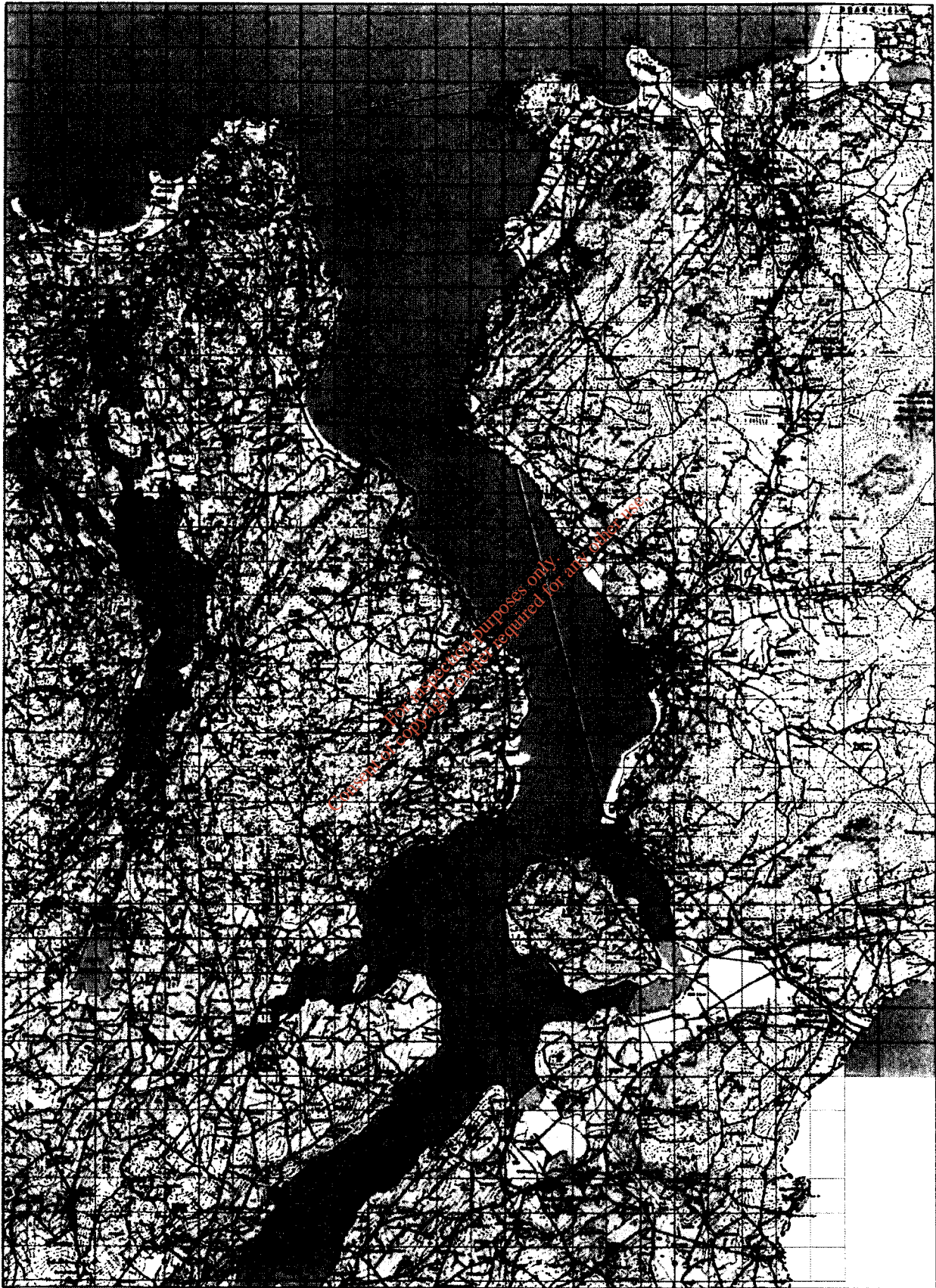
Dumping Co-ordinates:
(55°07.46/ 7°28.16)
(55°07.44/ 7°28.25)
(55°07.62/ 7°27.79)
(55°07.50/ 7°28.20)
(55°07.42/ 7°28.08)
(55°07.50/ 7°28.26)
(55°07.60/ 7°27.84)
(55°07.44/ 7°28.55)
(55°07.46/ 7°28.20)
(55°07.42/ 7°28.18)
(55°07.50/ 7°28.16)
(55°07.45/ 7°28.10)
(55°07.53/ 7°29.14)
(55°07.49/ 7°28.08)
(55°07.48/ 7°28.10)
(55°07.46/ 7°28.12)
(55°07.47/ 7°28.23)
(55°07.42/ 7°28.60)

Date	Quantity (m <sup>3</sup> )
30/06/2009	174
01/07/2009	152
02/07/2009	110
03/07/2009	140
06/07/2009	114
07/07/2009	84
08/07/2009	110
09/07/2009	84
10/07/2009	114
14/07/2009	96
15/07/2009	96
16/07/2009	120
17/07/2009	132
20/07/2009	120
21/07/2009	126
22/07/2009	124
23/07/2009	102
24/07/2009	104
27/07/2009	174
28/07/2009	112
29/07/2009	128
30/07/2009	138
31/07/2009	160
05/08/2009	124
06/08/2009	146
07/08/2009	158
10/08/2009	128
11/08/2009	128
12/08/2009	128
13/08/2009	118
14/08/2009	172
<b>TOTAL</b>	<b>3916</b>

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Density of Marine Sand = approximately 2000kg/m<sup>3</sup>  
Take sand as 2 tonnes/m<sup>3</sup>

Removed 7832 tonnes of recently deposited sand and silt



Map 28: Lough Swilly

1:100,000

Designated Shellfish Water

Department of the Environment,  
Heritage and Local Government  
Date: December 2008



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Project Management

**DONEGAL COUNTY COUNCIL**

**MAINTENANCE DREDGING  
BUNCRANA HARBOUR  
COUNTY DONEGAL**

**ASSESSMENT OF PLANS AND PROJECTS SIGNIFICANTLY  
AFFECTING NATURA 2000 SITES**

**JUNE 2011**

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FS25466 EMS 75248



consultancy engineering business environment

NI Reg No. NI055181

Doran Consulting Limited  
Registered Office  
Malone Exchange  
226 Lisburn Road  
Belfast BT9 6GE

T 028 9038 1321  
F 028 9066 3255  
E mail@doran.co.uk  
W www.doran.co.uk

EPA Export 11-08-2011:03:47:57



**MAINTENANCE DREDGING, BUNCRANA HARBOUR**

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**APPENDICES**

- Appendix A Site Synopsis and Standard Data Form
- Appendix B Archaeological Information from a previous EIA undertaken at Bunrana

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## SECTION 1

### TEST OF LIKELY SIGNIFICANCE SCREENING MATRIX

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Screening Matrix	
Brief description of the project or plan	<p>Small scale, essential, annual maintenance dredging is required at Buncrana Harbour to facilitate the launch of the RNLI Lifeboat at all stages of the tide.</p> <p>The works will comprise the relocation of material from an area of high deposition within the launch route of the RNLI Lifeboat, to an area of low deposition within the confines of the harbour. It is imperative this dredging is permitted, to ensure the health and safety of maritime and recreational users of Lough Swilly and North Donegal.</p> <p>Previous maintenance dredging has been undertaken at this location, under Licence, since 2007, without having any having any significant impacts on the receiving environment.</p>

Brief description of the Natura 2000 site	<p>Buncrana Harbour lies within the Lough Swilly SAC (Site Code 002287). The SAC is situated in the northern part of Co. Donegal, comprising the inner part of Lough Swilly, extending from below Letterkenny to just north of Buncrana. The site is estuarine in character, with shallow water and intertidal sand and mud flats being the dominant habitats. The main rivers flowing into the site are the Swilly, Lennan and Crana. At low tide, extensive sand and mud flats are exposed, especially at the mouths of the Swilly and Lennan rivers.</p> <p>Lough Swilly SAC covers an area of approximately 9,262ha, which is made up with approximately 30% marine areas and sea inlets and 60% tidal rivers, estuaries, mud flats, sand flats and lagoons. This site is of conservation importance for its good examples of four habitats listed on Annex I of the EU Habitats Directive (estuaries, lagoons, Atlantic salt meadows, old oak woods) and supports a population of Otter. In addition, it is of high ornithological importance for wintering waterfowl, with 16 species occurring regularly in numbers of national importance, plus 3 species occurring within the SAC and on adjacent polders in numbers of international importance.</p>
---	--

Assessment Criteria	
Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.	<p>The individual elements of the project which are likely to give rise to impacts on the Natura 2000 site are as follows:</p> <ul style="list-style-type: none"> <li>• Loading of material from the approach channel;</li> <li>• Transportation of material to dump site;</li> <li>• Disposal of material at dump site.</li> </ul>

<p>Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 site by virtue of:</p> <ul style="list-style-type: none"> <li>• Size and scale;</li> <li>• Land-take;</li> <li>• Distance from Natura 2000 site or key features of the site;</li> <li>• Resource requirements (water abstraction etc);</li> <li>• Emission ( disposal to land, water or air);</li> <li>• Excavation requirements;</li> <li>• Transportation requirements;</li> <li>• Duration of construction, operation, de-commissioning etc;</li> <li>• Other.</li> </ul>	<p>Potential impacts on the Lough Swilly SAC from any dredging and disposal campaign may include the following:</p> <ul style="list-style-type: none"> <li>• Removal of sub tidal benthic species and communities through dredging of the material;</li> <li>• Short term increases in suspended solids;</li> <li>• Settlement of suspended solids which may result in blanketing of sub tidal communities;</li> <li>• Release of nutrients or contaminants in loading operation.</li> </ul> <p>However, it is considered unlikely these works will have any impact on the Natura 2000 site due to the small scale nature of the campaign and the extent of observational evidence and experience from previous similar maintenance dredging and disposal campaigns at Buncrana. All works will be undertaken within close confines of the harbour</p> <p><i>Size and scale</i> – Unlikely impact due to small scale nature of operation and the observational evidence and experience from previous similar maintenance dredging and disposal campaigns at Buncrana which showed that this operation has had no impact on the Natura 2000 site;</p> <p><i>Land-take</i> - Unlikely impact due to small scale nature of operation, observational evidence and experience from previous similar maintenance dredging and disposal campaigns at Buncrana, which showed that this operation has had no impact on the Natura 2000 site. Further to this the works will be carried out within close confines of harbour;</p> <p><i>Resource requirements (water abstraction etc)</i> - Unlikely impact due to small scale nature of operation;</p> <p><i>Emission ( disposal to land, water or air)</i> - Unlikely impact due to small scale nature of operation;</p>
---	--

<p>Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 site by virtue of contd.....:</p>	<p><i>Distance from Natura 2000 site or key features of the site</i> - Unlikely impact due to small scale nature of operation and that the works will be undertaken within close confines of harbour. Observational evidence and experience from previous similar maintenance dredging and disposal campaigns at Buncrana has showed that this operation has had no impact on the Natura 2000 site. Loading and disposal operations are not located within close proximity to any significant features of the SAC and are therefore unlikely to have any impact on the Natura 2000 site as a whole;</p> <p><i>Excavation requirements</i> - Unlikely impact due to small scale nature of operation;</p> <p><i>Transportation requirements</i> - Unlikely impact due to small scale nature of operation, and all works will be carried out within close confines of harbour, thereby minimising transportation requirements.</p> <p><i>Duration of construction, operation, de-commissioning etc;</i> <i>etc</i> - Unlikely impact due to small scale nature of operation and short timing of works. Previous similar maintenance dredging and disposal campaigns at Buncrana, showed have had no impact on the Natura 2000 site.</p>
--	--

<p>Describe any likely changes to the site arising as a result of :</p> <ul style="list-style-type: none"> <li>• reduction of habitat area;</li> <li>• disturbance to key species;</li> <li>• habitat or species fragmentation;</li> <li>• reduction in species density;</li> <li>• changes in key indicators of conservation value (water quality etc)</li> </ul>	<p>The works comprise the relocation of clean, uncontaminated material from an area of high deposition to an area of low deposition to ensure the launch of the RNLI Lifeboat at all stages of the tide. The quantity of material to be removed from the approach channel is small and the proposed dump site, located within a deep channel close to the harbour, has adequate capacity to receive the dredged material.</p> <p>The scale of the loading and disposal work is for each campaign is considered small to incur any changes to the Natura 2000 site with regard to habitats and species. The dump site experiences strong tidal and current action and is not considered significantly important for the key species of the Natura 2000 site. The dispersive action of the currents and depth of the site will ensure the material will be adequately accommodated for within the dump site. The distance between the dumpsite in relation to the loading site is minimal and therefore similar to the existing ground conditions and habitat grounds experienced at the loading site.</p>
--	--

<p>Describe any likely changes to the site arising as a result of....contd.</p>	<p>It is unlikely the loading or disposal activities will have any significant impact on the key species, habitats or indicators of conservation value of the Lough Swilly SAC Natura 2000 site.</p>
---	--

<p>Describe any likely impacts on the Natura 2000 site as a whole in terms of:</p> <ul style="list-style-type: none"> <li>• interference with the key relationships that define the structure of the site;</li> <li>• interference with key relationships that define the function of the site.</li> </ul>	<p>From previous experience of undertaking similar loading and disposal operations at Buncrana Harbour it is evident that it is unlikely the same works will have any impact on the Natura 2000 site in terms of interference with the key relationships that define the structure and function of the site.</p>
--	--

<p>Provide indicators of significance as a result of the identification of effects set out above in terms of:</p> <ul style="list-style-type: none"> <li>• loss</li> <li>• fragmentation</li> <li>• disruption</li> <li>• disturbance;</li> <li>• change to key elements of the site (egg water quality etc)</li> </ul>	<p>No indicators of significance have been identified based on previous experience of undertaking similar loading and disposal campaigns at the same site, and as a result of the small scale nature of the works.</p>
---	--

<p>Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts are not known.</p>	<p>It is unlikely the proposed small scale loading and disposal campaign at Buncrana, for the purpose of the RNL Lifeboat, as has been carried out since 2007, will have a significant impact on the Natura 2000 site.</p>
--	--

Finding of No Significant Effects Report Matrix	
Name of Project or Plan	Maintenance Dredging at Bunrana harbour, County Donegal
Name and location of Natura 2000 site	Lough Swilly SAC (Site Code 002287) – County Donegal
Description of the Project or Plan	Small scale maintenance dredging of the approach channel at Bunrana Harbour is required annually to ensure the launch of the RNLI Lifeboat at all stages of the tide. The RNLI Lifeboat stationed at Bunrana services the entire north coast of Donegal. Currently sedimentation prevents the launch of the lifeboat at low stages of the tide.
Is the Project or Plan directly connected with or necessary to the management of the site (provide details) ?	No
Are there other projects or plans that together with the project of plan being assessed could affect the site (provide details)?	No

The Assessment of Significance of Effects	
Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 site	Large scale dredging campaigns can have significant impacts on Natura 2000 sites through the removal of sub tidal benthic species and communities through dredging of the material, short term increases in suspended solids, settlement of suspended solids and the release of nutrients or contaminants in loading operation.

<p>Explain why these effects are not considered significant</p>	<p>Similar works have been undertaken at Buncrana Harbour since 2007 with no evidence of any significant impacts on the SAC having been previously reported. The quantity of material to be removed is small and of similar composition to that of the dump site, due to the small distance between the loading and dumping area. The small quantity of material to be removed is technically being relocated from an area of high deposition with the approach channel to a deep channel at the edge of the harbour, in order to accommodate the critical launch of the RNLI Lifeboat at all stages of the tide. There is a strong tidal and current regime at the harbour and this ensures the small quantity of material disperses naturally, preventing any concern for blanketing.</p>
<p>Explain why these effects are not considered significant....contd.</p>	<p>Due to the tidal and current regime experienced at the harbour, it is unlikely the dump site is a significantly important habitat for the key species that define the Natura 2000 site. The loading and dumping works have been, and will continue to be, undertaken in a diligent manner with every effort made to ensure spillage and accidental dumping is prohibited. The naturally fast rate of sedimentation within the approach channel requires the annual maintenance dredge to re-establish the design drafts for the RNLI Lifeboat at all stages of the tide. The material has been tested and is found to be clean and no point sources of contamination have been identified close to the harbour. The dump site has sufficient capacity to accommodate the dredge material and hydrographic surveys are undertaken to monitor this site. This maintenance dredging campaign has been undertaken since 2007 under licence without any reports of any detrimental impacts on the receiving environment.</p>
<p>List of Agencies Consulted: Provide contact name and telephone or email address.</p>	<p>NPWS EPA DCMNR DAFF</p>

Response to consultation	The similar small scale dredging campaigns undertaken at Buncrana Harbour have all been carried out under licence issued by the relevant statutory authority responsible at that time for their issue. Extensive consultation between DCMNR, DAFF, NPWS, Donegal County Council and now the EPA has been undertaken to ensure the work is carried out within the conditions of previous permits. To date no reports of any environmental impacts to the Natura 2000 site as a whole have been reported or identified as a result of the small scale maintenance dredging work at Buncrana.
--------------------------	--

Data Collected to Carry out the Assessment			
Who carried out the assessment	Sources of Data	Level of assessment completed	Where can the full results of the assessment be accessed and viewed?
Doran Consulting on behalf of Donegal County Council	NPWS site synopsis and supporting information	Stage 1	N/A

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## SECTION 2

### SUPPORTING INFORMATION

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## 1.0 INTRODUCTION

### 1.1 Appropriate Assessment

Under the European Union Habitats Directive, an Appropriate Assessment has been requested by the Environmental Protection Agency (EPA), to assess the likely impact of the proposed maintenance dredging campaign at Bunrana Harbour Co. Donegal, which is located with the Lough Swilly Special Area of Conservation (SAC site code 002287).

The Appropriate Assessment has been compiled in accordance with the requirements of the EU (Natural Habitats) Regulations 2007, as amended by Section 75 of the Wildlife (Amendment) Act 2000, and is required if a project or plan may give rise to significant effects on a Natura 2000 site.

Lough Swilly SAC, situated in the northern part of Co. Donegal comprises the inner part of Lough Swilly. It extends from below Letterkenny to just north of Bunrana. Lough Swilly is a long sea loch, cutting through a variety of metamorphic rocks on the west side of Inishowen.

### 1.2 Site Location

Bunrana Harbour lies on the eastern shore of Lough Swilly at the mouth of Mill River. The pier is used as a (RNLI) berth for the Lough Swilly Lifeboat and provides a slip way for the Bunrana - Rathmullan car ferry. Bunrana Harbour is currently under the control and management of Donegal County Council.

### 1.3 Existing Site Conditions

Due to the proximity of Bunrana Harbour to the mouth of Mill River, the harbour and approach channel are susceptible to sedimentation as a result of the deposition which occurs when the river floods and as a consequence of the natural coastal sediment transport regime. The rate of sedimentation within the harbour intensifies as a result of adverse weather conditions. The movement of vessels within the harbour induces localised erosion and deposition

The continuous movement of sediment gives rise to the uneven distribution of sediment on the bed of the harbour and approach channel with the result that the advertised navigable depths are reduced and thus the vessels using the harbour, particularly the RNLI Lifeboat, are compromised.



A previous example of the impact of the sedimentation within the harbour is demonstrated in the difficulties experienced in launching the RNLI rescue boat in June 2006. In correspondence with Donegal County Council the RNLI at Bunrana have expressed concerns that if the matter was not resolved they were fearful the delay in launching their rescue vessel may result in a loss of life.

Donegal County Council proposes to obtain a permit for six years to undertake maintenance dredging to maintain a minimal navigable depth of -2.0m. It is proposed the dredging would be undertaken annually on an as required basis. This maintenance dredging will ensure the unimpeded launch of the RNLI Lifeboat.

## 2.0 NATURA 2000 SITES

Bunrana Harbour lies within the Lough Swilly SAC. This SAC is of conservational importance as it contains good examples of at least four habitats listed on Annex 1 of the EU Habitat Directive (estuaries, lagoons, Atlantic salt meadows and old oak woods) and supports a population of otters. It also has ornithological importance. This SAC extends from below Letterkenny to just north of Bunrana.

The site synopsis and Natura 200 standard data form for Lough Swilly SAC are presented in Appendix A.

## 3.0 ARCHAEOLOGY

The proposed maintenance dredging work will be undertaken in areas of recently deposited material within the approach channel which have been dredged in previous maintenance dredging campaigns. It is therefore unlikely the proposed maintenance dredging will have any significant impact on any archaeology.

Details of the archaeological findings from an EIA carried out at Bunrana are presented in Appendix B.

## 4.0 PROJECTS AND PLANS LIKELY TO AFFECT NATURA 2000 SITES.

The proposed maintenance dredging campaign at Bunrana Harbour is not likely to affect the Lough Swilly SAC Natura 2000 site.



Further to this, to our knowledge, no reports have been made detailing any impact of previous dredging campaigns on the Natura 2000 site.

To our knowledge, no further plans or projects have been identified that are likely to affect the Natura 2000 site.

As such, it is not proposed that any other projects or plans together with the proposed maintenance dredging at Buncrana are likely to have a significant impact on the Lough Swilly SAC Natura 2000 site.

## 5.0 DREDGING SEQUENCE

### General

Preliminary conditions have been compiled by the design engineers of the project and the contractor will be required to supply a full Method Statement for undertaking the works upon appointment.

### Preliminary Work

Before any work is carried out on site, the appointed contractor must submit the following:

- Complete and approved tender documents;
- A preliminary programme for the work;
- A Method Statement for the work including all details of plant and equipment they propose to use;
- Acceptance of the terms & conditions set out in the Disposal at Sea Licence.

### Proposed Time Frame

It is proposed to undertake dredging in July 2011. It is anticipated the works will take 3 weeks, dependent on weather and site conditions.

## 6.0 ENVIRONMENTAL MANAGEMENT

The Irish coastline contains a high proportion of areas protected under various natural heritage designations, namely candidate Special Areas of Conservation (cSAC), Special Protected Areas (SPA) and Natural Heritage Areas (NHA).



The designations are issued primarily under the European Union Habitats Directive and Wild Birds Directive. Other designations are also made under the Europeans Union Shellfish Directive.

Buncrana Harbour lies within the Lough Swilly SAC, however it is not noted as an area of significant key features of the Natura 2000 site. In all cases however, and throughout the duration of the works, appropriate measures should be taken to conserve the ecological significance of the area.

### **Integrated Marine and Coastal Areas Management**

Management of Marine Biodiversity in the coastal seas is necessary as part of a wider system of Coastal Zone Management (CDM). It is not possible to manage biodiversity without considering the wider aspects of economic planning and development. For marine biodiversity this extends to activities on land that affect the marine environment.

In order to exchange the promotion of responsible, sustainable development, the Marine Institute has developed CLAMS (Co-ordinated Aquaculture Management Systems). CLAMS will include stakeholders from other sectors of the community, and this aquaculture management plan can be incorporated into the coastal zone management policy of the area

Dúchas are presently implementing Aquaculture Zone Management Plans (AZMP) in coastal Special Protection Areas (SPA) and Special Areas of Conservation (SAC). These are to be researched scientifically and implemented under the Habitats (92/43/EEC) and the Wild-birds Directives (79/409/EEC). Any aquaculture operations found to be displacing wildlife shall be moved to an area where they do not have such an effect.

To the best of our knowledge no coordinated Aquaculture Management System or CLAMS are specific to the Lough Swilly SAC and the corresponding area.

To the best of our knowledge a National Biodiversity Plan specific to Lough Swilly SAC has not been developed

### **Environmental Impact Assessment (EIA)**

The EIA Directive is designated to ensure a comprehensive assessment is made of projects which are likely to have significant effects on the environment and to assess their likely impact on the surrounding environment.



An EIA is mandatory for all Annex 1 projects and is discretionary depending on the individual components of Annex 2 projects. These components include the general nature, size and location of projects and the condition of the receiving environment.

The proposed work at Buncrana Harbour does not fall within an Annex 1 project and therefore it is not compulsory for an EIA to be carried out.

### **Best Available Technique**

Best Available Techniques (BAT) are defined by EC Directive 96/61 as 'the most effective and advanced stage in the development of activities and their methods of operation which indicates the practicable suitability of particular techniques for providing the basis for emission limit values designed to prevent, and where that is not practicable, generally to reduce the emissions and the impact on the environment as a whole'.

This definition implies that BAT not only covers the technology used but also the way in which the installation is operated, to ensure a high level of environmental protection as a whole. BAT takes into account the balance between the costs and environmental benefits.

All work at Buncrana Harbour, will be undertaken in accordance with the Best Available Technique (BAT). BAT is defined in Section 5 of the EPA Act 1992 & 2003 & Section 5(2) of the Waste Management Acts 1996-2005.

In addition to this the appointed contractor should adhere to all conditions set out in the Dumping at Sea Licence. The conditions of the licence may include an incident response plan, in addition to guidance for working in construction and/or demolition sites near to areas liable to affect watercourses.

## **7.0 POTENTIAL DISTURBANCE AS A RESULT OF DREDGING ACTIVITIES**

The proposed maintenance dredging campaign at Buncrana is not likely to affect the Lough Swilly SAC Natura 2000 site.

As the contractor undertaking the works will adhere to good site practice, following relevant guidelines and conditions of the Licence, it is acceptable to presume the proposed works at Buncrana will be undertaken in such a way to minimise or eliminate the potential for any impact on the Natura 2000 site.



The proposed maintenance dredging campaign is not considered to have any impact on the Natura 2000 sites as the size and scale of the proposed works are small, and there have been no reports of any impacts on the Natura 2000 site following previous similar campaigns which have been carried out since 1999.

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**Appendix A**  
**Site Synopsis and Standard Data Form**

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## SITE SYNOPSIS

**SITE NAME: LOUGH SWILLY**

**SITE CODE: 002287**

This large site, situated in the northern part of Co. Donegal, comprises the inner part of Lough Swilly. It extends from below Letterkenny to just north of Buncrana. Lough Swilly is a long sea-lough, cutting through a variety of metamorphic rocks on the west side of Inishowen.

The site is estuarine in character, with shallow water and intertidal sand and mud flats being the dominant habitats. The main rivers flowing into the site are the Swilly, Lennan and Crana. At low tide, extensive sand and mud flats are exposed, especially at the mouths of the Swilly and Lennan rivers. Bivalves and polychaete worms are well represented in the macro-invertebrate fauna, with species such as Cockles (*Cerastoderma edule*), Mussels (*Mytilus edulis*), Baltic Tellin (*Macoma balthica*), Ragworm (*Nereis diversicolor*) and Sand Mason (*Lanice conchilega*) being common. Cord-grass (*Spartina anglica*) is well established on parts of the intertidal flats. The shoreline above the flats varies from bedrock shore to shingle or cobbles, and here is found a scattering of salt tolerant plants such as Scurvygrass (*Cochlearia officinalis*), Sea Milkwort (*Glaux maritima*) and Red Fescue (*Festuca rubra*).

Salt marshes are well represented in the inner sheltered areas of the site, with good examples in the Ramelton area. The marshes are the Atlantic salt meadow type, and are characterised by such species as Thrift (*Armeria maritima*), Sea Milkwort (*Glaux maritima*), Sea Aster (*Aster tripolium*), Sea Arrowgrass (*Triglochin maritima*) and Red Fescue (*Festuca rubra*).

Lakes which are lagoonal in character occur at Inch and Blanket Nook. Inch Lough is a good example of a large, shallow lagoon with very low salinity in most of the lagoon. Less information is available for Blanket Nook but it is of a higher salinity and adds to the richness of the habitat within the site as a whole. The vegetation in Inch is diverse and typically lagoonal, with well developed charophyte communities, including a large population of *Chara canescens* (a Red Data Book species). It also supports Horned Pondweed (*Zannichellia palustris*) and a mixed Pondweed/Tassleweed Community (*Potamogeton pectinatus/Ruppia maritima*). The green alga *Chaetomorpha linum* occurs at Blanket Nook. The aquatic fauna at Inch is rich and diverse and includes a range of lagoonal specialists and species that are apparently rare. These include *Lekanesphaera hookeri*, *Palaemonetes varians*, *Conopeum seurati*, *Sigara stagnalis*, *S. concinna*, *Jaera nordmanni*, *Neomysis integer* and *Cordyllophora caspia*. Less information is available on the aquatic fauna at Blanket Nook, though several lagoonal specialists have been recorded, including *Jaera ischiosetosa*, which appears to be a rare species in Ireland. Inch Lough is regarded as of significant conservation value for ectonal Coleoptera, with several species indicative of well-developed shoreline habitats including two that are apparently rare: *Bembidion bipunctatum*, a halotolerant shore species, and *Bembidion aeneum*, a stenotopic halobiont species. Although artificial in origin, the lagoon

habitat in this site is one of the largest and best examples of a shallow, low salinity lagoon habitat in the country.

Two woodlands occur adjacent to the north-western shore of Lough Swilly. These are Rathmullen and Carradoan Woods, the former being a Nature Reserve. They are dominated by Sessile Oak (*Quercus petraea*) and Birch (*Betula pubescens*), but many other species are present including exotics such as Beech (*Fagus sylvatica*). Alder (*Alnus glutinosa*) and Willows (*Salix* spp.) occur in the wetter parts. An area of wet heath, dominated by Ling (*Calluna vulgaris*), occurs on the hill above Carradoran Wood. These woodlands display a generally intact structure and support a range of breeding birds, including Woodcock.

A further area of woodland, scrub and heath occurs above the north-east shore at Crockacashel and at Porthaw. Oak/Hazel (*Corylus avellana*) scrub is frequent, and there is a well developed ground flora with species such as Wood-sorrel (*Oxalis acetosella*), Herb Robert (*Geranium robertianum*), Lady's fern (*Athyrium filix-femina*) and Broad Buckler Fern (*Dryopteris dilatata*). The heath vegetation includes Ling (*Calluna vulgaris*), Common Gorse (*Ulex europaeus*), Wood Sage (*Teucrium scorodonia*) and Tormentil (*Potentilla erecta*). In the wetter areas, Purple Moor-grass (*Molinia caerulea*) and Cross-leaved Heath (*Erica tetralix*) occur.

The site supports a population of Otter, a species listed on Annex II of the EU Habitats Directive.

Lough Swilly is an important site for waterfowl in autumn and winter. The shallow waters provide suitable habitat for grebes and diving duck, while the intertidal flats are used by an excellent diversity of wildfowl and waders. At high tide, the duck and wader species roost on the salt marshes and shorelines, with some species moving to the adjacent pasture and arable fields. In the three winters 1994/95 to 1996/97, 16 species occurred in nationally important numbers as follows (figures are average maximum counts for the 3 winters): Great Crested Grebe (274), Shelduck (646), Wigeon (1,673), Teal (1,381), Mallard (1,155), Shoveler (58), Scaup (143), Goldeneye (169), Red-breasted Merganser (103), Coot (335), Oystercatcher (1,459), Knot (327), Dunlin (7,995), Curlew (1,716), Redshank (1,080) and Greenshank (30). Other species which occur in regionally or locally important numbers, and at times may exceed the threshold for national importance, include Brent Goose, Pochard, Tufted Duck, Lapwing, Ringed Plover, Grey Plover, Bar-tailed Godwit and Turnstone. The site is also an important area for the Great Northern Diver and the rare Slavonian Grebe.

The adjacent pasture and arable polders at Inch, Big Isle and Blanket Nook support internationally important populations of Whooper Swans, Greenland White-fronted Geese and Greylag Geese. Inch Lough is an important roosting area for these birds and at times they utilise other parts of Lough Swilly for roosting.

This site is of conservation importance as it contains good examples of at least four habitats listed on Annex I of the EU Habitats Directive (estuaries, lagoons, Atlantic salt meadows, old oak woods) and supports a population of Otter. In addition, it is of high ornithological importance for wintering waterfowl, with 16 species occurring

regularly in numbers of national importance, plus 3 species occurring within the site and on adjacent polders in numbers of international importance.

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14.03.2003

**NATURA 2000**  
**STANDARD DATA FORM**

FOR SPECIAL PROTECTION AREAS (SPA)

FOR SITES ELIGIBLE FOR IDENTIFICATION AS SITES OF  
COMMUNITY IMPORTANCE (SCI)

AND

FOR SPECIAL AREAS OF CONSERVATION (SAC)

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## 1. SITE IDENTIFICATION

<i>1.1. TYPE</i>	<i>1.2. SITE CODE</i>	<i>1.3. COMPILATION DATE</i>	<i>1.4. UPDATE</i>
K	IE0002287	200008	

**1.5. RELATION WITH OTHER NATURA 2000 SITES:**

NATURA 2000 SITE CODES

IE0002305

IE0000149

**1.6. RESPONDENT(S):**

National Parks & Wildlife Service of the Department of the Environment, Heritage and Local Government. 7 Ely Place, Dublin 2, Ireland.

**1.7. SITE NAME:**

Lough Swilly

**1.8. SITE INDICATION AND DESIGNATION/CLASSIFICATION DATES:**

**DATE SITE PROPOSED AS ELIGIBLE AS SCI:**

200008

**DATE CONFIRMED AS SCI:**

**DATE SITE CLASSIFIED AS SPA:**

**DATE SITE DESIGNATED AS SAC:**

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### 3. ECOLOGICAL INFORMATION

#### 3.1. HABITAT types present on the site and assessment for them:

##### ANNEX I HABITAT TYPES:

CODE	%COVER	REPRESENTATIVITY	RELATIVE SURFACE	CONSERVATION STATUS	GLOBAL ASSESSMENT
1130	60	A	B	B	A
1150	2	B	B	B	A
1320	1	D			
91a0	1	B	C	B	B
1330	1	B	C	B	B

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**3.2. SPECIES**

***covered by Article 4 of Directive 79/409/EEC***

***and***

***listed in Annex II of Directive 92/43/EEC***

***and***

***site assessment for them***

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**3.2.a. BIRDS listed on Annex I of Council directive 79/409/EEC**

CODE	NAME	POPULATION			SITE ASSESSMENT		
		Resident	Migratory		Population	Conservation	Isolation
		Breed	Winter	Stage			
A003	Gavia immer		15 i		C	A	C
A007	Podiceps auritus		6 i		B	A	B
A038	Cygnus cygnus		642 i		B	B	C F
A140	Pluvialis apricaria		1001 i		C	B	C
A157	Limosa lapponica		154 i		C	B	C
A395	Anser albifrons flavirostris		657 i		B	B	C F

**3.2.b. Regularly occurring Migratory Birds not listed on Annex I of Council directive 79/409/EEC**

CODE	NAME	POPULATION			SITE ASSESSMENT		
		Resident	Migratory		Population	Conservation	Isolation
		Breed	Winter	Stage			
A005	Podiceps cristatus		274 i		B	A	C F
A017	Phalacrocorax carbo		84 i		C	B	C
A043	Anser anser		1542 i		A	A	C F
A046	Branta bernicla		181 i		C	B	C
A048	Tadorna tadorna		646 i		B	A	C F
A050	Anas penelope		1673 i		C	A	C
A052	Anas crecca		1381 i		B	A	C
A053	Anas platyrhynchos		1155 i		B	A	C
A056	Anas clypeata		58 i		C	A	C
A061	Aythya fuligula		169 i		C	B	C
A062	Aythya marila		143 i		B	A	C F
A067	Bucephala clangula		169 i		C	A	C
A070	Mergus merganser		103 i		B	A	C
A125	Fulica atra		335 i		B	A	C
A130	Haematopus ostralegus		1459 i		B	A	C
A137	Charadrius hiaticula		92 i		C	B	C
A141	Pluvialis squatarola		20 i		C	B	C
A142	Vanellus vanellus		1636 i		C	B	C
A143	Calidris canutus		327 i		C	A	C
A149	Calidris alpina		7995 i		B	A	C F
A156	Limosa limosa		76 i		C	B	C
A160	Numenius arquata		1716 i		C	A	C
A162	Tringa totanus		1080 i		B	A	C

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A164	Tringa nebularia	30	i	B	A	C	2
A169	Arenaria interpres	56	i	C	B	C	

**3.2.c. MAMMALS listed on Annex II of Council directive 92/43/EEC**

CODE	NAME	POPULATION			SITE ASSESSMENT		
		Resident	Migratory		Population	Conservation	Isolation
		Breed	Winter	Stage			
1355	Lutra lutra	p			C	A	C 2

**3.2.d. AMPHIBIANS and REPTILES listed on Annex II of Council directive 92/43/EEC**

**3.2.e. FISHES listed on Annex II of Council directive 92/43/EEC**

**3.2.f. INVERTEBRATES listed on Annex II of Council directive 92/43/EEC**

**3.2.g. PLANTS listed on Annex II of Council directive 92/43/EEC**

### 3.3. Other Important Species of Flora and Fauna

GROUP		SCIENTIFIC NAME	POPULATION	MOTIVATION
B	M A R F I P			
M		Lepus timidus hibernicus	p	A
M		Lepus timidus hibernicus	p	B
M		Lepus timidus hibernicus	p	C
M		Mustela erminea	p	C
M		Ncytalus leisleri	p	A
M		Ncytalus leisleri	p	C
	A	Rana temporaria	p	A
	A	Rana temporaria	p	C
	R	Lecerta vivipara	p	C
	F	Salmo trutta	p	C
B		Cygnus olor	295 i	C
B		Ardea cinerea	54 i	C
	P	Chara canescens	p	A
	P	Chaetomorpha linum	p	D
	P	Ruppia maritima	p	D
	I	Lekanesphaera hookeri	p	D
	I	Palaemonetes varians	p	D
	I	Sigara stagnalis	p	D
	I	Sigara concinna	p	D
	I	Conopeum seurati	p	D
	I	Cordyllophora caspia	p	D
	I	Jaera ischiosetosa	p	D
	I	Jaera nordmanni	p	D
	I	Neomysis integer	p	D

(B = Birds, M = Mammals, A = Amphibians, R = Reptiles, F = Fish, I = Invertebrates, P = Plants)

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## 4. SITE DESCRIPTION

### 4.1. GENERAL SITE CHARACTER:

Habitat classes	% cover
Marine areas, Sea inlets	30
Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins)	60
Salt marshes, Salt pastures, Salt steppes	1
Coastal sand dunes, Sand beaches, Machair	1
Shingle, Sea cliffs, Islets	1
Inland water bodies (Standing water, Running water)	1
Bogs, Marshes, Water fringed vegetation, Fens	1
Heath, Scrub, Maquis and Garrigue, Phygrana	1
Dry grassland, Steppes	1
Humid grassland, Mesophile grassland	1
Improved grassland	1
Broad-leaved deciduous woodland	1
<b>Total habitat cover</b>	<b>100 %</b>

### Other site characteristics

Lough Swilly is a long sea inlet situated on the north Donegal coast. The site includes all of the inner part of the lough, extending from below Letterkenny to just north of Buncrana, a distance of c.25 km along a south-west to north-east axis. The lough varies in width, from approximately 2 km to 5 km. The site is estuarine in character, with shallow water and intertidal sand and mud flats being the dominant habitats. The main rivers flowing into the site are the Swilly, the Leannan and the Crana. Salt marshes occur mainly on the more sheltered western side. Artificial embankments have created brackish lakes at Inch and Blanket Nook. Other habitats which have a minor presence include sand dune, wet grassland, heath, scrub and deciduous woodland.

### 4.2. QUALITY AND IMPORTANCE:

The site is important as a fine example of a large, natural sea inlet which is estuarine in character. Extensive intertidal sand and mud flats are exposed at low tide. Salt marshes of the Atlantic salt meadow type are well represented. The estuarine habitats are generally of good quality, though areas along the south-eastern shore have been embanked in the past to create polders. Although the lagoon habitat is artificial in origin, it is one of the largest and best examples of a shallow, low salinity lagoon in the country. It supports what is probably the largest population in the country of *Chara canescens*, a Red Data Book species. The fauna is rich and diverse and contains 8 lagoonal specialists, and is of significant conservation value for ecotonal Coleoptera. Prospects for maintenance of the conservation structure of the habitat are good. The site includes several areas of old oak woodland, mostly of good quality and with natural regeneration. One of these woods is a Statutory Nature Reserve. Lough Swilly supports important populations of wintering and staging waterfowl. Of particular significance is that the site provides roosting and limited feeding areas for the internationally important populations of *Cygnus cygnus*, *Anser anser* and *Anser albifrons flavirostris* which feed mainly on the polders adjacent to the site. In addition, there are at least 16 species occurring in numbers of national importance, while *Pluvialis apricaria* and *Limosa lapponica*, both listed on Annex I of the EU Birds Directive, also occur regularly. Has breeding *Lutra lutra*.

#### 4.3. VULNERABILITY

The principal commercial activity within this site is aquaculture. It is not known if this is causing significant disturbance to the estuarine habitats and particularly the bird populations. Aquaculture may increase at this site in the future. In the past, significant areas of estuarine habitat have been reclaimed for agriculture. While large-scale reclamation is unlikely to occur again, there are likely to be threats from small scale local projects. Despite the proximity of several towns, water quality is generally satisfactory. Some of the woodland habitat has been affected by heavy grazing. Recreation activities, including boating, occur at several areas of site and these activities are likely to increase in the future.

#### 4.4. SITE DESIGNATION:

#### 4.5. OWNERSHIP

State : Department of the Marine  
Department of Arts, Heritage, Gaeltacht, and the Islands.

Private : Multiple

#### 4.6. DOCUMENTATION

- Bowman, J.J., Clabby, K.J., Lucey, J., McGarrigle, M.L. and Toner, P.H. (1996). Water Quality in Ireland 1991-1994. Environmental Protection Agency, Wexford.
- Colhoun, K. (1998). I-WeBS Report 1996-97. BirdWatch Ireland, Dublin.
- Curtis, T.G.F. and Sheehy Skeffington, M.J. (1988). The salt marshes of Ireland: an inventory and account of their geographical variation. Biology and the Environment, Proceedings of the Royal Irish Academy 98B: 87-104.
- Curtis, T.G.F. (1991a). A site inventory of the sandy coasts of Ireland. In Quigley, M.B. (ed.) A Guide to the Sand Dunes of Ireland. E.U.C.C. Dublin.
- Fox, A.D., Norriss, D.W., Stroud, D.A. & Wilson, H.J. (1994). Greenland White-fronted Geese in Ireland and Britain 1982/83 - 1993/94. Greenland White-fronted Goose Study research report no. 8. Greenland White-fronted Goose Study, Wales and National Parks & Wildlife Service, Dublin.
- Good, J.A. (1999). Irish Coastal Lagoon Survey, 1998. Vol V. Unpublished Report, Dúchas the Heritage Service, Dublin.
- Hart, H.C. (1898). Flora of County Donegal. Dublin.
- Healy, B. (1999). A Survey of Irish Coastal Lagoons. Vol I. Background, Description and Summary. Unpublished Report, Dúchas the Heritage Service, Dublin.
- Healy, B., Oliver, G.A., Hatch, P. and Good, J.A. (1997). Coastal lagoons in the Republic of Ireland. Vol. I. Background, Outline and Summary of Survey. Report to the National Parks & Wildlife Service, Dublin.
- Hunt, J., Derwin, J., Coveney, J. & Newton, S. (2000). Republic of Ireland. Pp.365-416 in M.F. Heath & M.I. Evans (eds) Important Bird Areas in Europe: priority sites for conservation 1: Northern Europe. Cambridge, U.K.: BirdLife International. (BirdLife Conservation Series No. 8).
- McElwaine, J.G., Wells, J.H. & Bowler, J.M. (1995). Winter movements of Whooper Swans visiting Ireland: preliminary results. Irish Birds 5: 265-278.
- Merne, O.J. (1989). Important bird areas in the Republic of Ireland. In: Grimmett, R.F.A. and Jones, T.A. (eds) Important Bird Areas in Europe. ICBP Technical Publication No. 9. Cambridge.
- Nelson, B., Foster, G., Weyl, R. and Anderson, R. (1997). The distribution of aquatic Coleoptera in Northern Ireland. Part 1: Families Haliplidae, Hygrobiidae, Noteridae, Dytiscidae and Gyrinidae. Bulletin of the Irish Biogeographical

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Society 20: 179-296

Oliver, G.A. (1999). Irish Coastal Lagoon Survey. 1998. Vol. IV. Aquatic Fauna. Unpublished Report, Dúchas the Heritage Service, Dublin.

Praeger, R.L (1934). The Botanist in Ireland. Hodges and Figgis, Dublin.

Roden, C. (1999). Irish Coastal Lagoon Survey, 1998. Vol III. Flora. Unpublished Report, Dúchas the Heritage Service, Dublin.

Sheppard, R. (1993). Ireland's Wetland Wealth. IWC, Dublin.

Young, R. (1973). Report on Areas of Ecological and Geological Interest in County Donegal. An Foras Forbartha, Dublin.

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## 5. SITE PROTECTION STATUS AND RELATION WITH CORINE BIOTOPES

### 5.1. DESIGNATION TYPES at National and Regional level:

CODE	% COVER
IE01	1
IE05	1

### 5.2. RELATION OF THE DESCRIBED SITE WITH OTHER SITES:

#### designated at National or Regional level:

TYPE CODE	SITE NAME	OVERLAP TYPE	% COVER
IE01	Rathmullen Wood Nature Reserve	+	1
IE05	Blanket Nook Wildfowl Sanctuary	*	1

#### designated at International level:

### 5.3. RELATION OF THE DESCRIBED SITE WITH CORINE BIOTOPE SITES:

CORINE SITE CODE	OVERLAP TYPE	% COVER
800000110		
800000124		

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## 6. IMPACTS AND ACTIVITIES IN AND AROUND THE SITE

### 6.1. GENERAL IMPACTS AND ACTIVITIES AND PROPORTION OF THE SURFACE OF THE SITE AFFECTED

#### IMPACTS AND ACTIVITIES WITHIN the site

CODE	INTENSITY	% OF SITE	INFLUENCE
140	A B C	2	+ 0 -
200	A B C	20	+ 0 -
210	A B C	20	+ 0 -
220	A B C	10	+ 0 -
230	A B C	50	+ 0 -
621	A B C	10	+ 0 -
622	A B C	20	+ 0 -
701	A B C	50	+ 0 -
954	A B C	1	+ 0 -

#### IMPACTS AND ACTIVITIES AROUND the site

CODE	INTENSITY	INFLUENCE
100	A B C	+ 0 -
120	A B C	+ 0 -
140	A B C	+ 0 -
160	A B C	+ 0 -
400	A B C	+ 0 -
802	A B C	+ 0 -

### 6.2. SITE MANAGEMENT AND PLANS

#### BODY RESPONSIBLE FOR THE SITE MANAGEMENT

The Department of The Environment and Local Government is responsible for managing Rathmullen Wood Nature Reserve. The Department also manages the Blanket Nook Wildfowl Sanctuary as a No-shooting Area.

#### SITE MANAGEMENT AND PLANS

A management plan for the conservation of this site will be prepared.

Rathmullen Wood is managed in order to enhance the quality of the principal habitat old oak woodland.

## 7. MAPS OF THE SITE

- *Physical map*

- *Aerial photograph(s) included:*

NUMBER	AREA	SUBJECT	DATE
066907	Lough Swilly	Central sector of site	199506

## 8. SLIDES

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**Appendix B**

Archaeology Information from a previous EIA carried out at Buncrana

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## 10.0 CULTURAL HERITAGE

### 10.1 Introduction

The construction of a boat harbour constitutes a potential risk to archaeological sites but is also a potential source of information. To minimise the risk to archaeological sites a thorough study of the land and marine site was undertaken.

### 10.2 Study Area

Buncrana is a small town built at the mouth of two rivers, the Crana River and the Mill River, on the eastern shore of Lough Swilly, Co. Donegal. It is located at the midpoint of the Lough, which is 39 km in length. The surrounding landscape is generally low-lying but there are large hills in the near distance. The town has expanded, particularly in the last sixty years. When it was once bounded by the two rivers it has now expanded south of the Mill River and a large pocket of settlement exists here today. It is on this side of the Mill River that the site to be surveyed lies.

The site to be impacted by the proposed development may be divided into two areas for the purpose of the Archaeological Study. The first area extends from the high water mark to the low water mark i.e. it is the intertidal zone, bounded by Buncrana Pier to the north, Black Rock to the south and a boulder protected shoreline to the west. It encompasses the mouth of the Mill River which flows into Lough Swilly at Buncrana Pier. At low spring tide, the triangular area exposed measures approximately 250 m by 250 m by 250 m. The second area is continuously under water. It extends from the low water spring tide mark, 150 m into Lough Swilly i.e. to the extent of the proposed dredging. The shoreline to the west is protected by a course of large boulders. The first 20 m of the shore consists of a layer of rocks and small stones on a sandy bed. The remainder is an expanse of sandy beach.

### 10.3 Archaeological Study

The archaeological study comprised the following two main parts

- (1) desktop study - this is where all relevant maps, records and documents pertaining to the site were analysed in order to document the known archaeological status of the site.
- (2) archaeological field studies - this is where a landbased survey of the intertidal zone and a geophysical survey of the marine area were carried out.

#### 10.3.1 Desktop Study

##### Lough Swilly

Lough Swilly is a natural deep water Harbour 37 km long. It is bounded by the Fanad Peninsula on its west and the Inishowen Peninsula to the east. The entrance is flanked by Fanad Lighthouse, erected in 1816, and Dunaff Head. Letterkenny is situated at the end of the Lough. It has a long and varied history with a number of Iron Age, Early Christian and Medieval Buildings in existence. Its military importance is reflected in the remains of various fortifications around the Lough.

The area was known as a safe haven by the early mariners, Ptolemy mentions the nearby headland as "Argrita" and charted the fort, Grianan of Ailceach. Lewis describes the Lough as "a capacious haven of easy access, suitable for vessels of any burden". The area is mentioned frequently in the Annals. Lough Swilly's significance in Irish history is associated with the arrest of Red O'Donnell, the Flight of the Earls in 1607 and the arrest of Wolfe Tone in 1798.

##### Buncrana

Buncrana was a town of importance in Elizabethan times. Buncrana Castle belonged to the O'Donnell and O'Doherty clan. It was confiscated and given to Sir Arthur Chichester. A new Castle was built in 1717 for the Vaughan

family. It was approached by a bridge over the River. Two rivers empty into the lough here. The north channel locally called the Castle River or the Craua River had a valuable salmon fishery. On the southern river, Mill River, a number of mills were situated including flax, oat and flour. The town because of its central situation was chosen as the headquarters of the Artillery forces for the Foyle and Swilly. At Ned's point is one of the square forts built at the time of the Martello towers. The fort was built to accommodate 30 men. In the eighteenth and nineteenth Century Buncrana was a considerable textile centre. Lewis reports that in 1837 cotton, linen, sailcloth and wool were milled there. Today one of the largest textile factories in Ireland is situated there.

Lewis also reports that several vessels were engaged in fishing and fish were exported to Liverpool. The nineteenth century saw increased traffic in the Lough. The narrow gauge railway of the LL&S connected Derry with Buncrana. It also travelled northwards to Malin and southwards along the coast via Fahan, Inch, Carrowen to Letterkenny. The last heyday of this railway was the transporting of soldiers and sailors between Lough Foyle and Lough Swilly in World War I.

#### **Buncrana Pier**

Buncrana Pier originally consisted of two sections; it extended 100 m south into Lough Swilly before turning south-west and extending for a further 60 m. In 1896 a lighthouse was constructed, reflecting the increasing importance of the pier, primarily as a fishing port. Between 1929 and 1933 the pier was extended and a large pocket of land, adjacent to the original pier, was reclaimed for storage and/or service purposes. The Board of Works under the Piers and Harbour Confirmation Order of 1929 completed this work.

At the turn of the century and for the following 60 years, Buncrana pier thrived. Fishing vessels used it primarily because of the nearby rail line which was used to transport their catch. A photograph in Harry Percival Swan's "Romancing Inishowen"

taken in 1938 shows the pier lined with fishing vessels and thronged with people. Cargo was also shipped in and out. The Harbour Commissioner's log book shows an average of 4 - 5 ships per month during the 1930's and '40's used the pier, primarily carrying coal, molasses and flour. The large tank (15m diameter) which is standing in the reclaimed section of the pier was constructed in 1944 for the storage of molasses. However, with the increasing efficiency in road transport and the decline in the use of molasses, Buncrana pier gradually became redundant. The pier is now little used. Currently, two mussel boats are moored here for winter shelter. Fishing boats from Inch island occasionally berth here and last year a logging company made two trips to the pier to collect locally felled trees.

#### **Mill River**

The Mill River enters the sea at Buncrana pier. It rises in the Glackmore Hills, 15 km east of Buncrana. It possibly gets its name from a mill, known as Swan's Mill which is situated 1 km from the mouth of the river. A mill has existed here for well over 400 years - it is present on the Parson Hollen map of Buncrana, dated 1661. The present mill, which milled flour, only closed in the early 1980's. A subsequent fire has left the premises in an advanced state of disrepair.

The mouth of the Mill River has been altered by the reclamation of two areas of land this century. The first has already been mentioned, namely the 1929 - 1933 extensions to the pier on the northern bank. A much larger pocket of land was reclaimed on the southern bank in 1991 to facilitate the construction of a wastewater treatment plant. This has greatly reduced the area of the mouth of the river and dramatically altered the southern bank from the beginning of the shoreline to Victoria Bridge - a distance of 250 m. This section of the riverbank is now wholly artificial. The surrounding land is low-lying. The northern bank along the same stretch is altogether different. The bank is natural. It slopes gradually for the first 10 m and then steeply to approximately 75 m above sea level. This south-facing hill has attracted a high density of settlement. While the protection of

The construction phase with the most potential for uncovering artifacts is the dredging operations. For this reason excavated material will be monitored during the dredging operations to identify the presence of any submerged artifacts. There will be a contingency team led by a licensed archaeologist in the event of a large site being uncovered during the construction. This team will carry out all necessary archaeological excavation and recording to ensure that no information is lost as a result of the proposed boat harbour. Specialist marine archaeological expertise will be utilized in the event of a seabed site being discovered.

All archaeological information recorded during the Project will be made available to Dúchas and the National Museum. Archaeological remains of sufficient merit will be conserved and published in an appropriate journal.

Throughout the project the archaeological work be carried out according to the bye-laws and guidance issued by the Institute of Field Archaeologists.

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