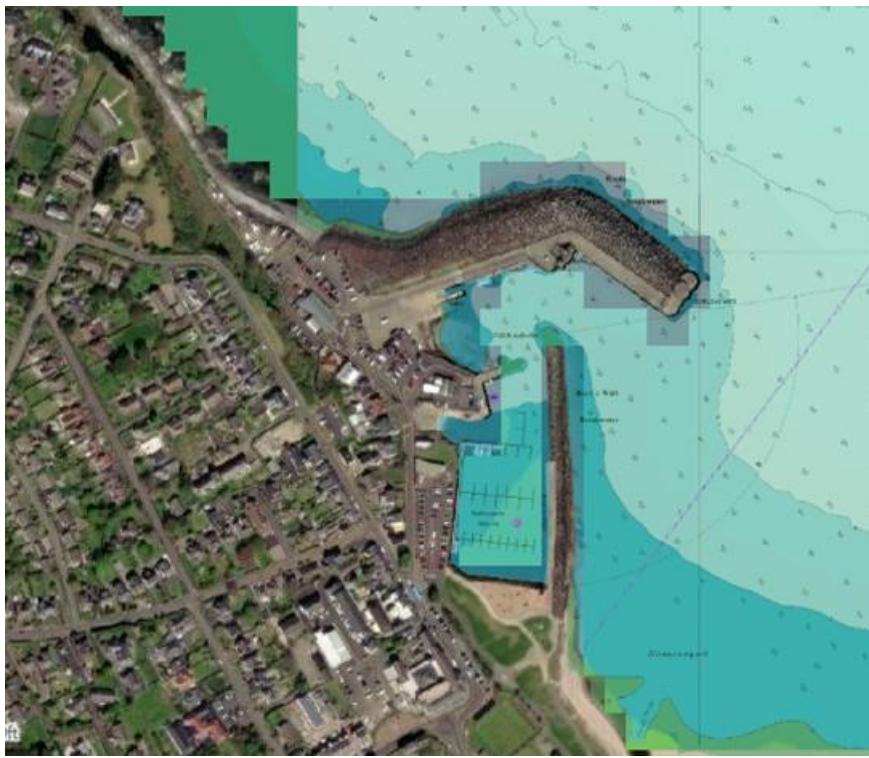




**Ballycastle Harbour
Dredging Works 2024
Habitats Regulations Assessment**

March 2024



Ref: JN 355.17a 2024



Contents

	Page
1.0 INTRODUCTION	1
2.0 HRA PROCESS	7
3.0 STAGE 1: TEST OF LIKELY SIGNIFICANCE (SCREENING)	8
4.0 STAGE 2: APPROPRIATE ASSESSMENT	27
5.0 CONCLUSIONS	32
6.0 SUPPORTING DOCUMENTATION	34

1.0 INTRODUCTION

Causeway Coast & Glens Borough Council (CC&GBC) is proposing to undertake maintenance dredging works at Ballycastle Harbour, Ballycastle, Irish Grid Reference (IGR) D 12238 41467 (Figure 1a). The works are required to re-establish sufficient water depth at low tide for the Rathlin Ferry to dock at the quay and for boats to use the slipway and pontoons. An area of approximately 26,500 m² is proposed to be dredged in the harbour resulting in 31,200 m³ of deposited sands to be removed (Figure 1b & 1c). The entrance of the harbour is to be dredged to -5.0 m CD. The inner harbour marina is to be dredged to -3.6 m CD with a small region to the south dredged to -2.6 m CD. The grading at 1 in 4 will tie the dredge level into the existing bed levels. A grading of 1 in 3 will be used adjacent to the head of the breakwater. Depth of dredge should be up to approximately 3 m. Dredged material will be removed to a DAERA licensed site (Ballycastle B: 55° 13.2'N 06° 14.4'W), located approximately 1.5 km north of Ballycastle Harbour.



Figure 1a: Site Location, Ballycastle Harbour

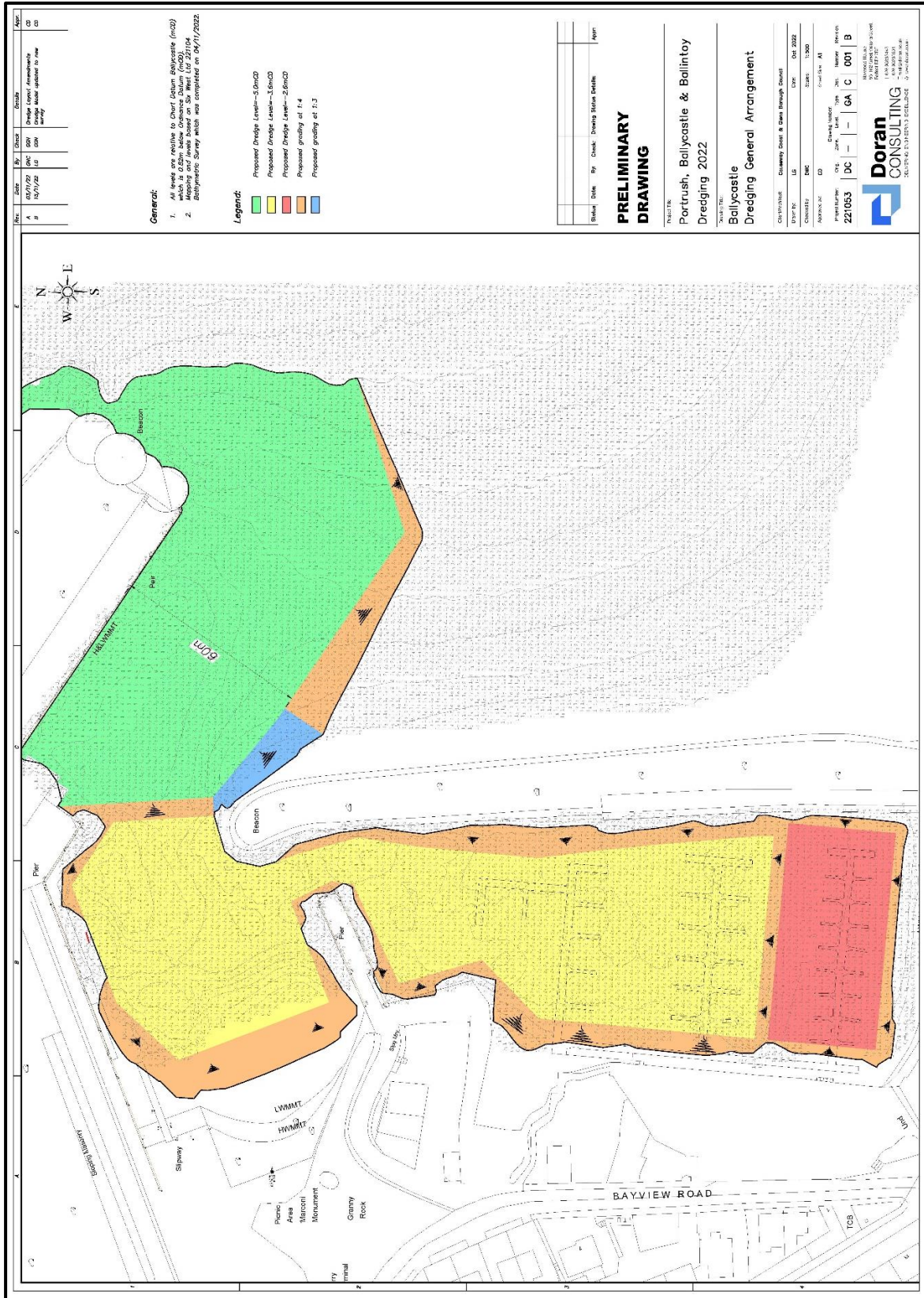


Figure 1b: Ballycastle Harbour, Dredge Arrangement

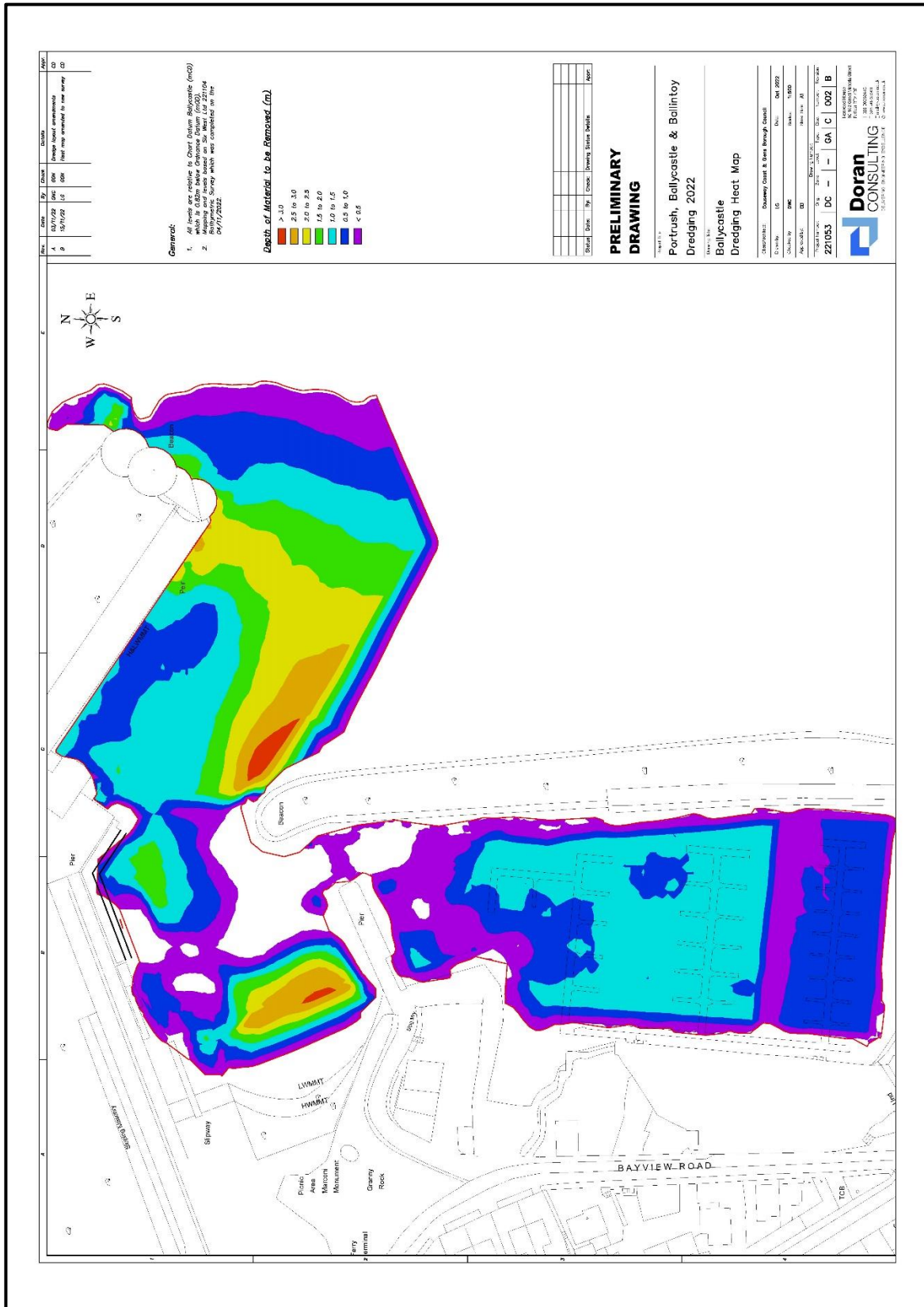


Figure 1c: Ballycastle Harbour, Dredging Heat Map

This report includes the HRA and acknowledges that the appointed Contractor will implement a robust Dredge Management Plan (Draft included in Section 6.0) considering the following DAERA 'Standing Advice' and Guidance:

- Development that may have an Effect on the Water Environment
- Marine Non-Native Species
- Marine Wildlife Disturbance

The HRA will be submitted in support of a Marine Licence Application for the proposed maintenance dredging works. The HRA is supported by the following summary methodology for the maintenance dredging works at Ballycastle Harbour. In addition, a Draft Dredge Management Plan is presented in Section 6.0 Supporting Documentation.

MAINTENANCE DREDGING WORKS, BALLYCASTLE HARBOUR: METHODOLOGY

The methodology below is a preliminary outline and is subject to confirmation by the appointed Contractor.

Dredging will commence within the harbour during the off-season (February - June 2025). Only silts, sands & gravels are to be dredged and dredging operations shall be carried out to the extent indicated on the drawings.

It is anticipated that a long reach excavator will be located on a pontoon with a split hopper barge moored alongside. Dredged material will be placed in the split hopper barge and filled to level. Alternatively, the Contractor may source a self-propelled split hopper barge with a long reach excavator mounted on board.

In the inner harbour marina, the pontoon sections will be disconnected and the localised bed area dredged before the pontoons are reconnected. The contractor may use suction dredging in the marina, as an alternative to the backhoe dredger, due to the shallower depths and presence of fine silts.

A 3-dimensional model of the target dredge profile shall be produced and uploaded onto the 3D GPS dig system of the excavator. The excavator will be fitted with several positional sensors on the bucket, stick and boom together with the GPS receivers for positional correction which will ensure the bucket is always dredging to the correct levels. A quayside benchmark will be established with a known position and elevation to enable regular bucket checks to be carried out to confirm the accuracy of the bucket positioning.

A line of buoys will be deployed, in agreement with the Harbour Master, to delineate the dredge works area as a constant visual reminder for the Harbour Users.

The excavator will carefully excavate the material to the required dredge levels taking care not to damage existing structures or create excessive suspended solids.

Dredge plant will maintain a daily electronic dredge log. The dredging log shall be a live document to be updated each day, resulting in a comprehensive record of the entire dredge campaign. The daily dredge log shall, as a minimum, record details of dredging work including:

- Location of dredging in the last 24 hours
- Proposed location of dredging for the next 24 hours
- Dredging times
- Dredged quantity
- Nature of dredge material
- Any notable events

It is anticipated that suitable dredge material will be disposed of at sea, dependent on DAERA granting a Disposal at Sea Licence.

All material to be removed will need to be deemed suitable for disposal at sea under the 'Disposal at Sea' licence conditions. If any material encountered is however considered unsuitable for disposal at sea, the Contractor shall bring ashore for testing, processing and appropriate disposal.

The proposed disposal site is 'Ballycastle Bay B' ($55^{\circ} 13.2'N$, $06^{\circ} 14.2'W$) located 1.5 km from the coast (Figure 1d).

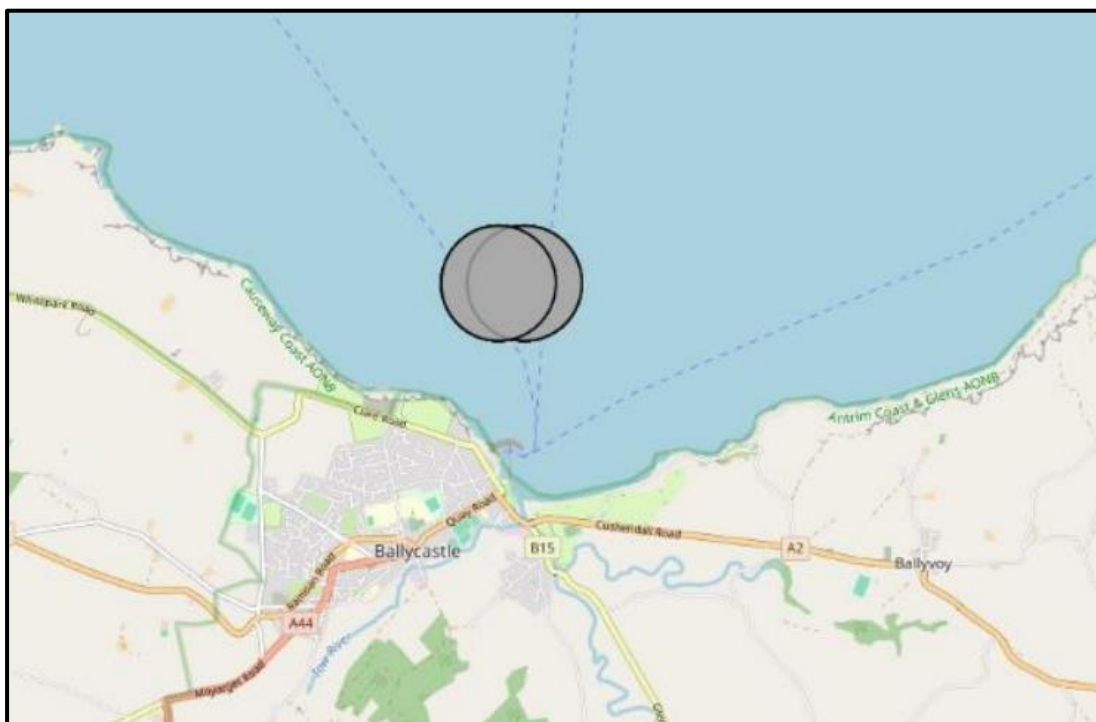


Figure 1d: Ballycastle Bay B Disposal Site

The disposal operations will include:

- The split hopper barge will be towed to a designated disposal site. The dredge material will be released through the hull of the split hopper barge while the vessel is in motion to aid the dispersion of sediments over the full dump site area.
- It should be noted that no overtopping of barges or decanting of water from the barges back into the tidal waters will be allowed. Any such event shall be dealt with as a spillage of dredge material.
- The route of the sea disposal vessel shall be recorded as required by DAERA. The volume of material to be discharged per day, frequency of trips per-day and the estimated traveling time will be confirmed by the Contractor prior to Award.

An electronic disposal log will be maintained as a live document showing a comprehensive record of the disposal campaign. The log shall record and report as a minimum the following:

- The name of the vessel
- The source of the substance/ material
- The date, time and position at which the voyage for the purposes of dumping began
- The date, time and position at which the loading began
- The date, time and position at which the loading ended
- The date, time and position at which dumping began
- The date, time and position at which dumping ended
- The quantity, stated in metric tonnes, of the substance or material dumped
- The date, time and position at which the vessel completed the voyage for the purpose of dumping
- Logged vessel track record data

The Contractor must have operational and active AIS vessel tracking during all operations.

Any vessel deployed shall be serviced in accordance with good marine practice and must be fit for that purpose.

All vessels are to be clearly marked with a vessel number and fitted with a VHF Radio, horn and be suitably lit in accordance with the International Maritime Standards.

A notice to mariners shall be issued prior to commencement of the activities to advise all vessels entering or leaving Ballycastle Harbour that the works are taking place.

The works do not involve piling and a Marine Licence is being applied for.

2.0 HRA PROCESS

Where a proposal involves a project with potential to affect an area that contributed to the UK National Site Network, such as a Special Area of Conservation (SAC) or Special Protection Area (SPA), the appointed competent authority is legally obliged to carry out a HRA. SACs and SPAs contribute to a UK National Site Network on land and at sea, including both the inshore and offshore marine areas.

A HRA is a tool put in place to ensure that a project will not have an adverse effect on the integrity of any SAC and SPA sites and must be undertaken if there is any potential for the designated site to be affected. The outcome of the assessment is the responsibility of the competent authority.

In respect of this proposed project, the developer is a designated competent authority and therefore this submission is a HRA.

The first step under the HRA procedure is what is commonly referred to as The Test of Likely Significance or Screening Test and this is presented in Section 3.0. Where the competent authority deems a project not likely to have a significant effect on any SAC or SPA, either alone or in combination with other plans or projects, then the HRA procedure is complete. Where the competent authority deems that a project is likely to have a significant effect on any SAC or SPA then a further stage in the HRA process must take place. This involves conducting an Appropriate Assessment (AA) where the implications of the project must be considered in respect of the relevant designated sites' conservation objectives. The competent authority may then agree to the project if it decides that it will not adversely affect the integrity of the relevant SAC and SPA sites, having considered the mitigation measures proposed by the developer. For this proposed project an AA is presented in Section 4.0.

This HRA has been prepared in accordance with Regulation 43(1) of the Conservation (Natural Habitats, etc.) (Northern Ireland) 1995 (as amended). It takes cognisance of the HRA requirement to take into account mitigation measures along with all legally enforceable obligations designed to avoid environmental effects. It also reflects the requirement for the competent authority to apply the precautionary approach set out in Commission Guidance: Managing Natura 2000 Sites and as required by the European Court of Justice in C 127/02 (Waddenzee).

3.0 STAGE 1: TEST OF LIKELY SIGNIFICANCE (SCREENING)

Screening Matrix

Name of Project or Plan:

Maintenance Dredging Works, Ballycastle Harbour

The site is located at Ballycastle Harbour, Ballycastle, County Antrim IGR D 12238 41467 (Figure 1a, Section 1.0). The works are required to re-establish sufficient water depth at low tide for the Rathlin Ferry to dock at the quay and for boats to use the slipway and pontoons. An area of approximately 26,500 m² is proposed to be dredged in the harbour resulting in 31,200 m³ of deposited sands to be removed (Figure 1b & 1c, Section 1.0). The entrance of the harbour is to be dredged to -5.0 m CD. The inner harbour marina is to be dredged to -3.6 m CD with a small region to the south dredged to -2.6 m CD. The grading at 1 in 4 will tie the dredge level into the existing bed levels. A grading of 1 in 3 will be used adjacent to the head of the breakwater. Depth of dredge should be up to approximately 3 m. Dredged material will be removed to a DAERA licensed site (Ballycastle B: 55° 13.2'N 06° 14.4'W), located approximately 1.5 km north of Ballycastle Harbour (Figure 1d, Section 1.0). The Maintenance Dredging Works will be undertaken by an appointed Contractor, who will be required to prepare and implement a robust Dredge Management Plan (Draft included in Section 6.0) considering the following DAERA 'Standing Advice' and Guidance: *Development that may have an Effect on the Water Environment; Marine Non-Native Species; Marine Wildlife Disturbance*. In respect of potential water pollution risk, the appointed Contractor will work to strict protocols in respect of chemicals, hazardous materials and fuelling arrangements.

Recognising that there are currently approximately 100 invasive non-native freshwater and marine species established in Northern Ireland, strict protocols will be in place in respect of plant and equipment used on-site. These protocols will be based on the 'Inspect, Remove, Clean, Dispose & Report' approach promoted by DAERA and Invasive Species NI. Plant and equipment will be subject to the following prior to leaving its previous location:

- **Inspect** all equipment that has been in a waterbody (boats, trailers, engines, outboards, dredgers, weed cutting or harvesting boats, cruisers or even clothing) or terrestrial site for attached vegetation, contaminated soil or obvious animal life before moving to another waterway, catchment or site
- **Remove** any adhering plant, soil or animal material from your equipment for disposal before relocating to another watercourse, section of waterway or site. Ensure that all water is drained from your boat and equipment before transportation to another site and all soil is removed from machinery, as this may contain seed or plant fragments
- **Clean** all equipment with a power hose away from the waterbody. Use hot water (>60 degrees centigrade) where possible
- **Dispose** of all plant and animal material in bags or containers for disposal in bins. Do not throw them back into the water or leave them lying at the water's edge
- **Report** and take photos of species you think may be an INNS on the Invasive Species NI website

The above will also be applied to plant and equipment prior to removal from site on completion of works. The works do not involve piling and a Marine Licence is being applied for.

Name and Location of National Site Network site:

Rathlin Island SPA
Rathlin Island SAC
Rathlin MCZ
North Antrim Coast SAC
Skerries & Causeway SAC (Harbour Porpoise only)
Maidens SAC (Grey Seal only)
North Channel SAC (Harbour Porpoise only)

National Site Network site features (Figure 3a – 3g):

Rathlin Island SPA

Peregrine Falcon
Razorbill
Guillemot
Kittiwake
Assemblage Species

Rathlin Island SAC

Submerged or Partially Submerged Sea Caves
Annual Vegetation of Drift Lines
Reefs
Sandbanks which are Slightly Covered by Sea Water all the Time
Vegetated Sea Cliffs of the Atlantic and Baltic Coasts

North Antrim Coast SAC

Fixed Dunes with Herbaceous Vegetation (“grey dunes”)
Species-rich Nardus Grassland, on Siliceous Substrates in Mountain Areas
Annual Vegetation of Drift Lines
Atlantic Salt Meadows (Glauco-Puccinellietalia maritimae)
Shifting Dunes along the Shoreline with Ammophila arenaria (“white dunes”)
Vegetated Sea Cliffs of the Atlantic and Baltic Coasts
Vertigo angustior

Skerries & Causeway SAC

Harbour Porpoise

Maidens SAC

Grey Seal

North Channel SAC

Harbour Porpoise

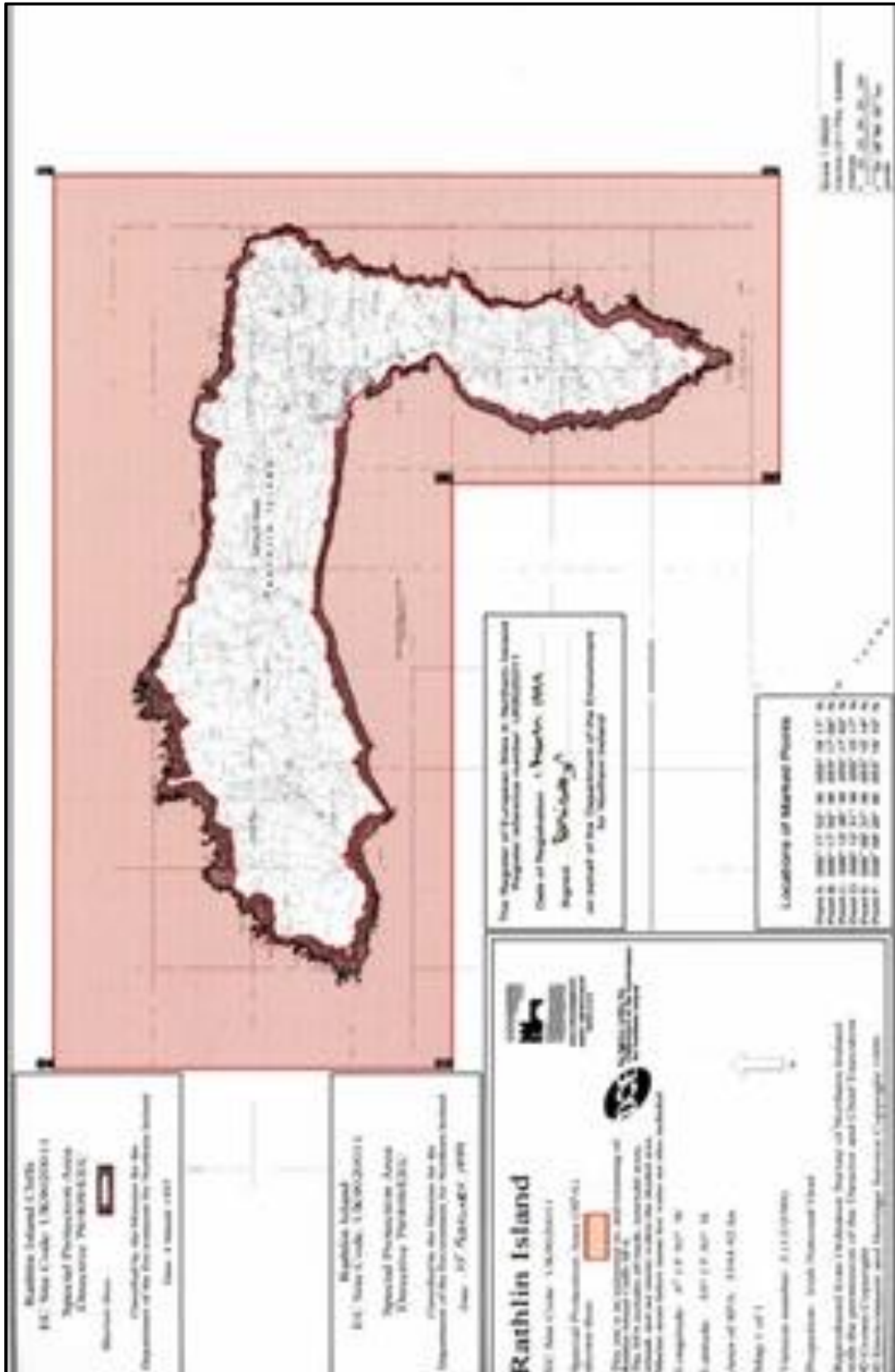


Figure 3a: Rathlin Island SPA Boundary (DAERA)

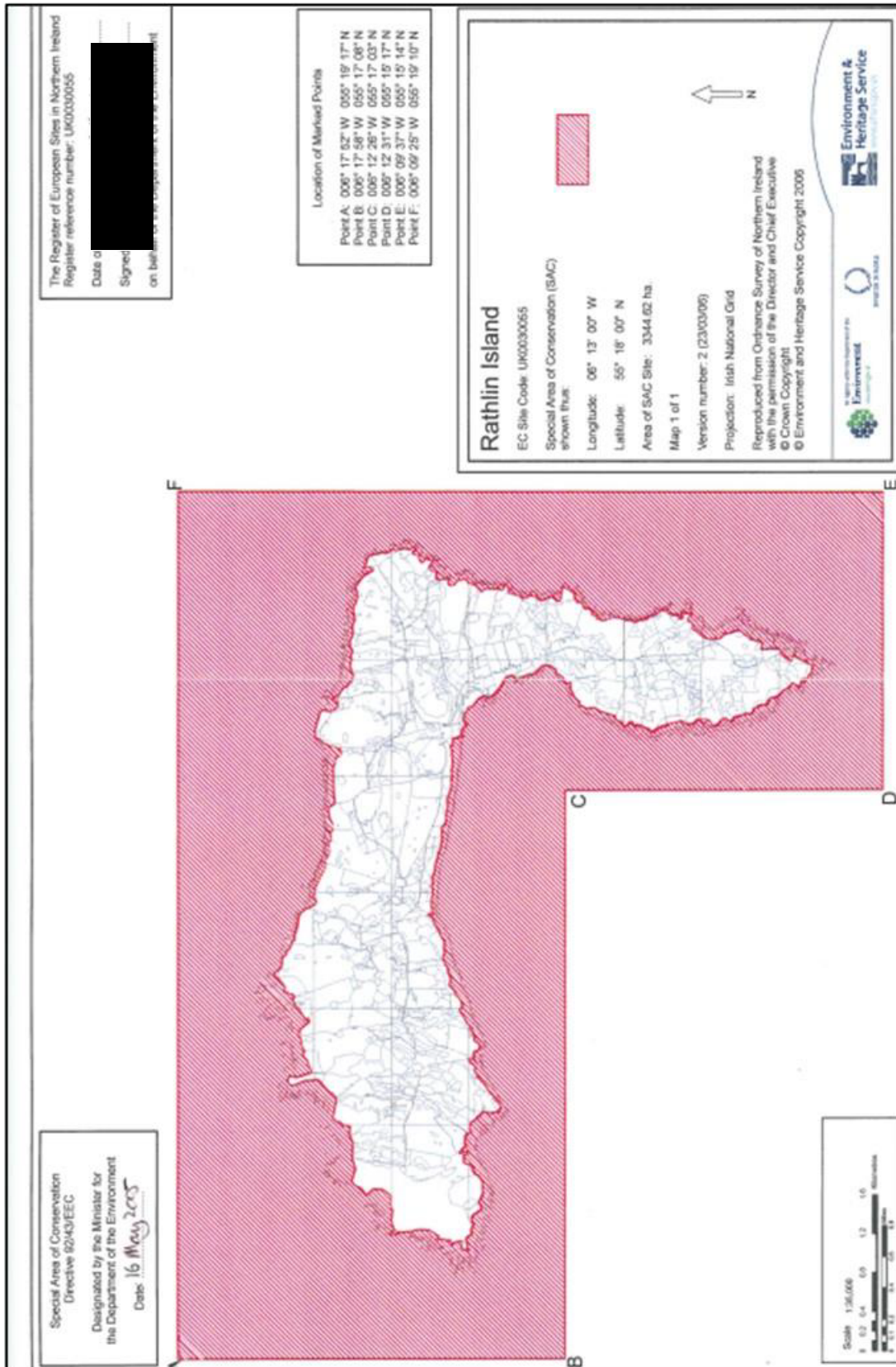


Figure 3b: Rathlin Island SAC Boundary (DAERA)

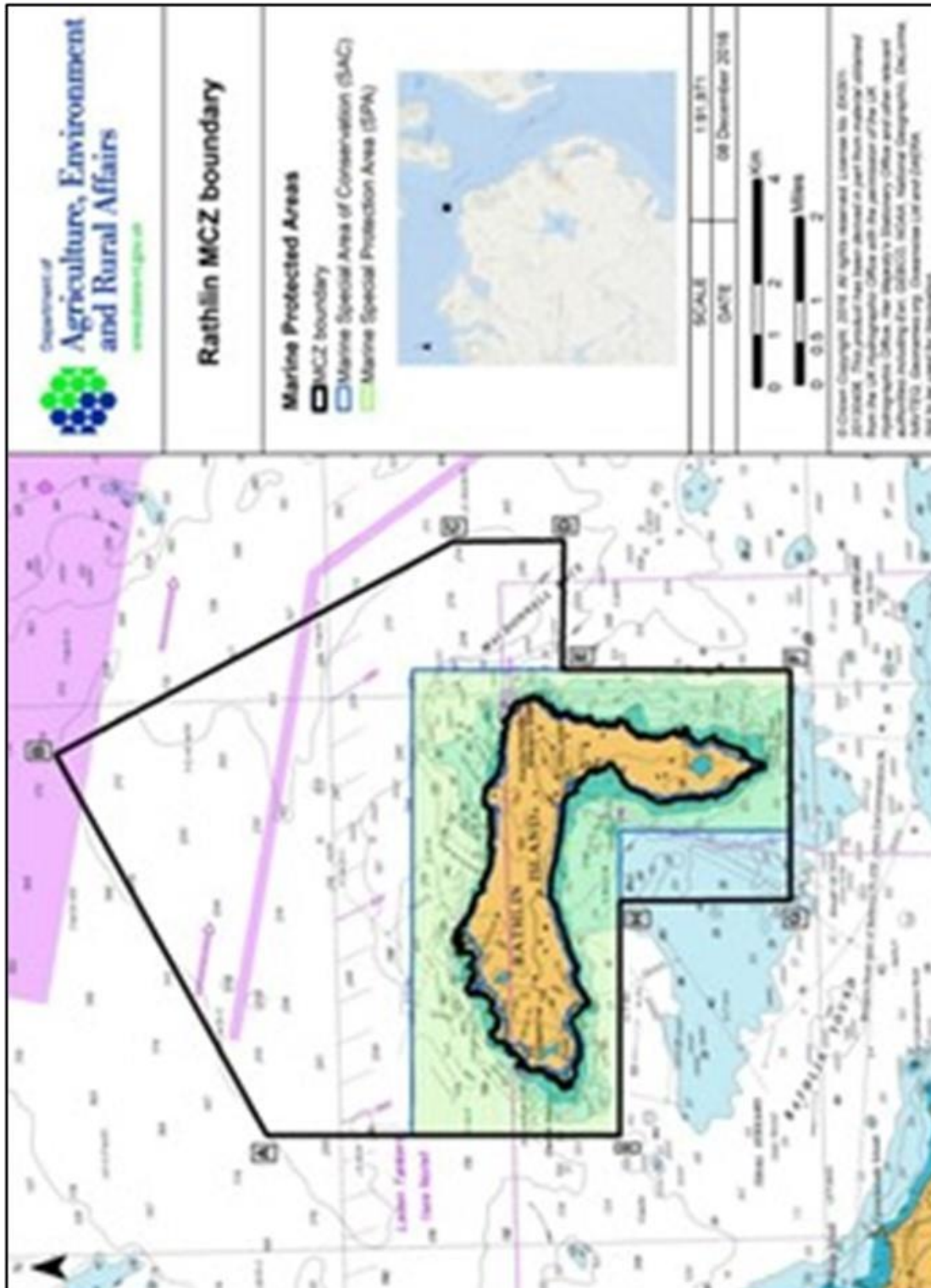


Figure 3c: Rathlin MCZ Boundary (DAERA)



Figure 3d: North Antrim Coast SAC Boundary (DAERA)

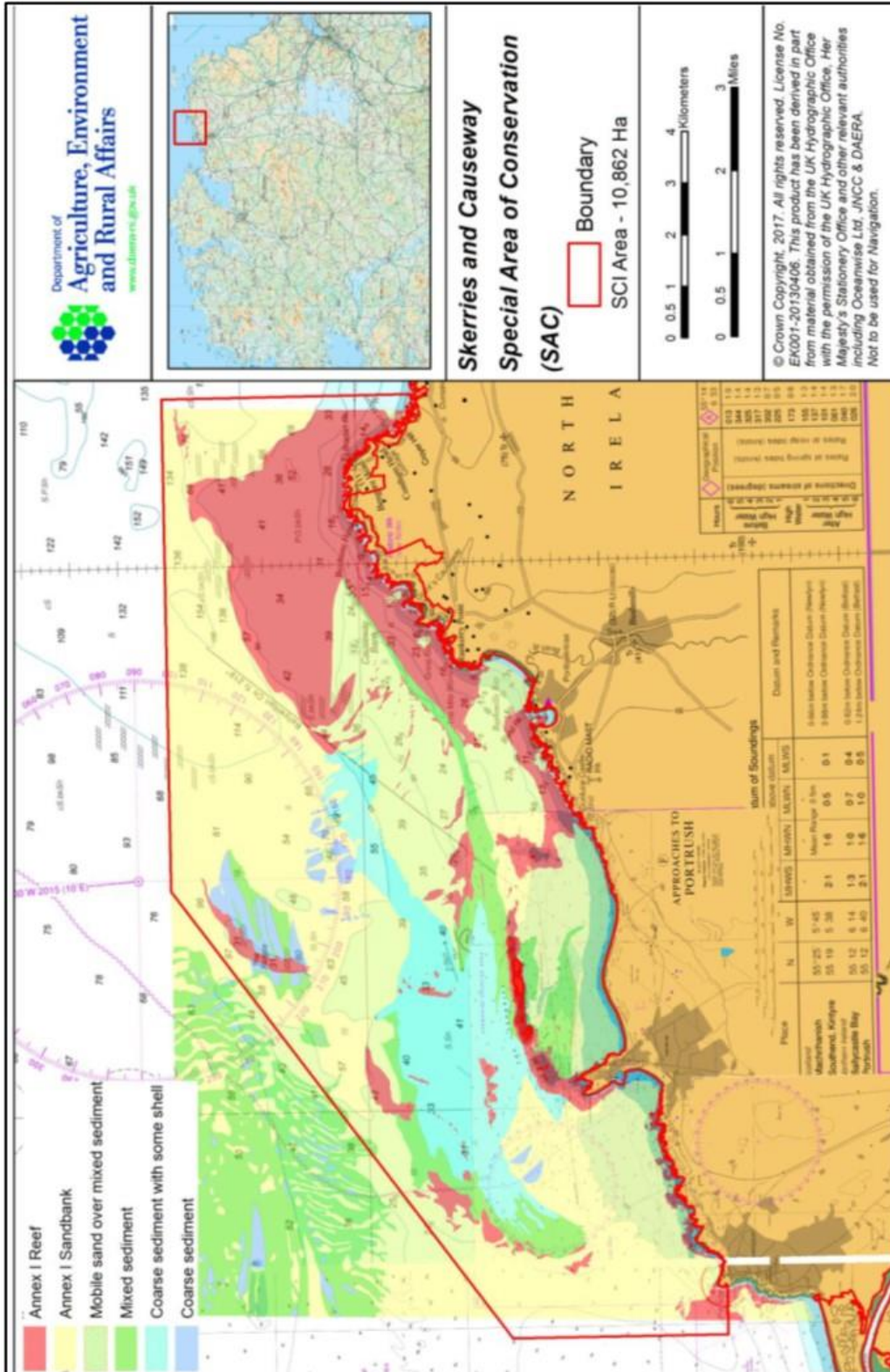


Figure 3e: Skerries & Causeway SAC Boundary (DAERA)

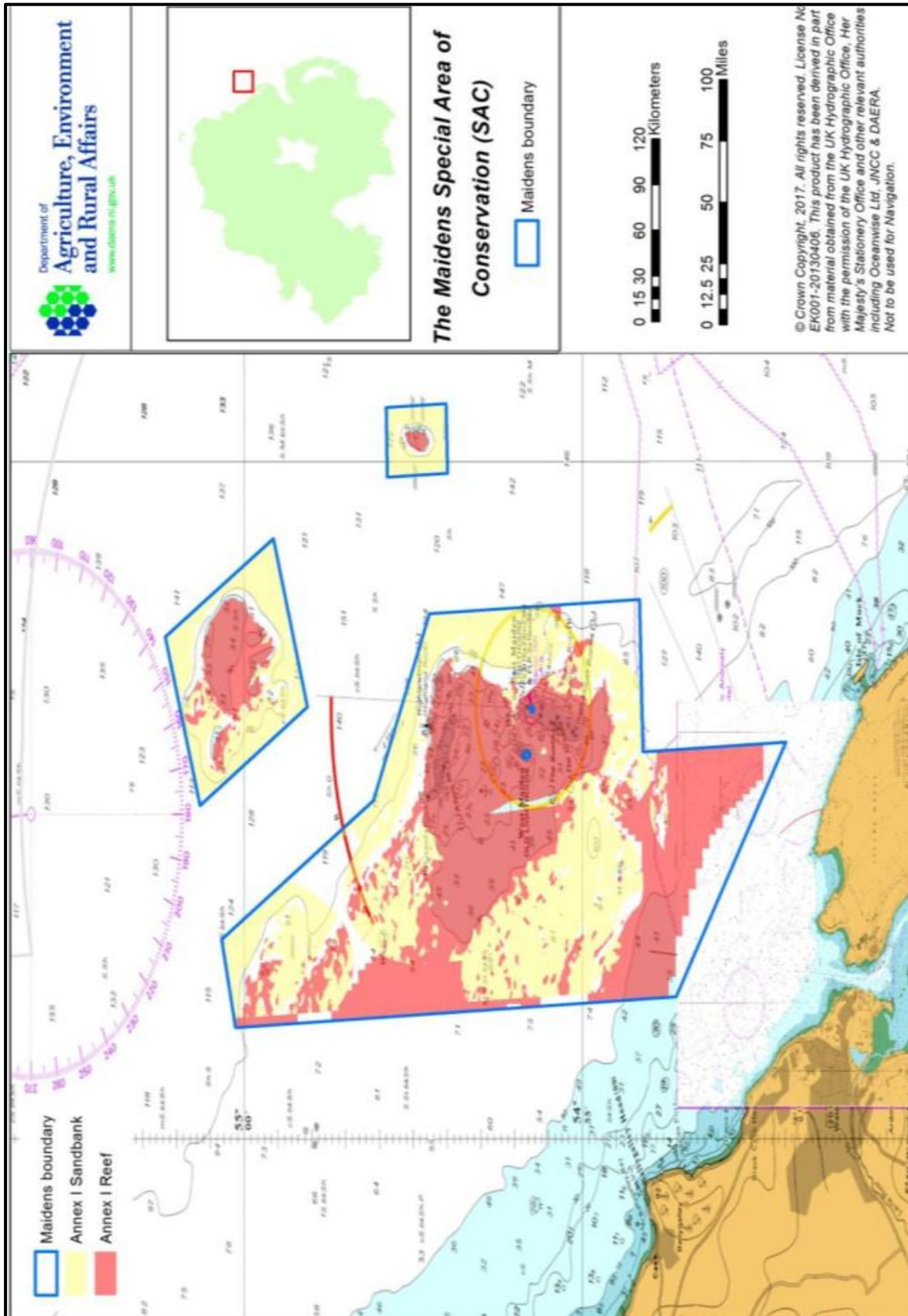


Figure 3f: The Maidens SAC Boundary (DAERA)

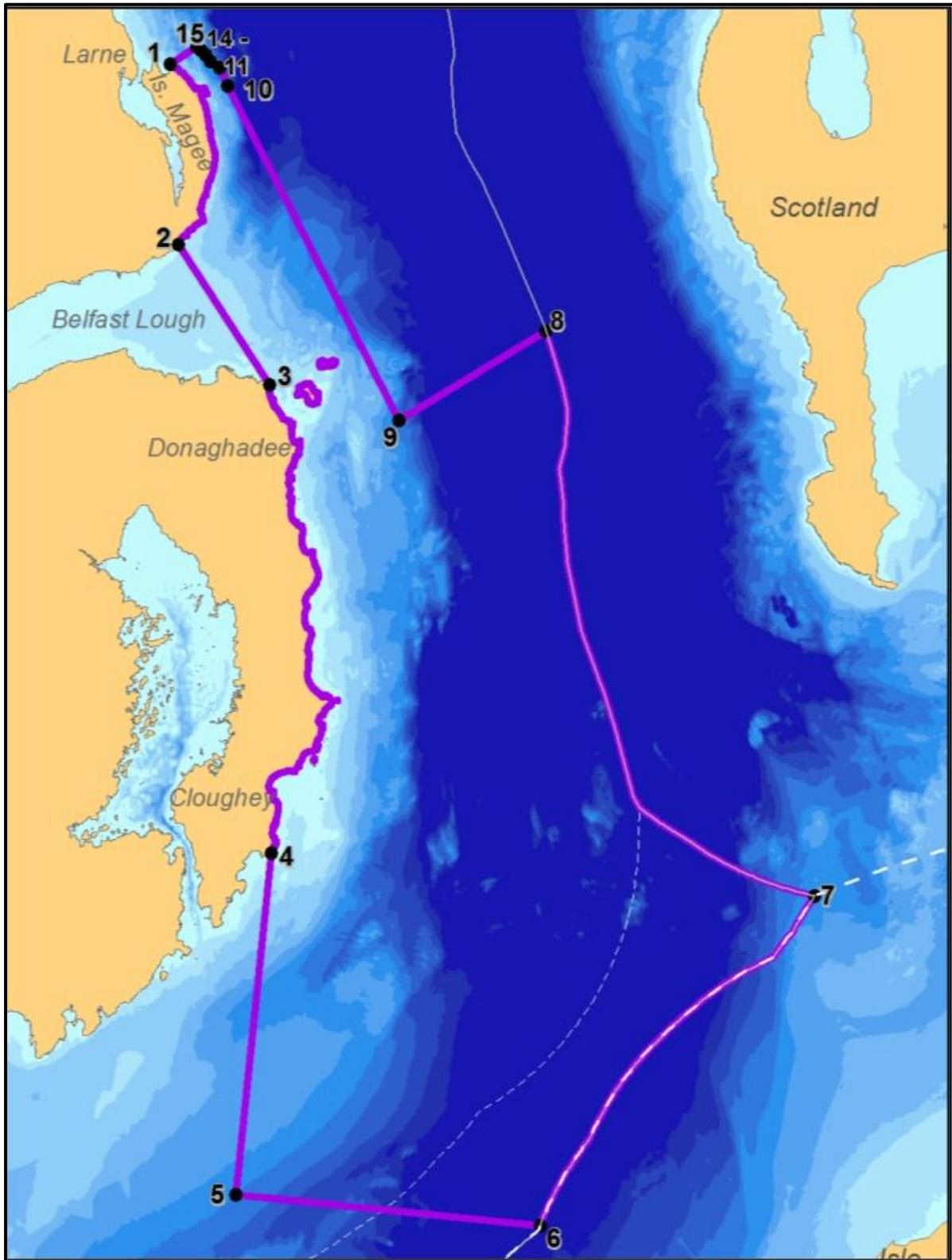


Figure 3g: North Channel SAC Boundary (DEFRA & JNCC)

Birds

Rathlin Island SPA comprises the major sea-cliffs around Rathlin Island. The basalt and limestone cliffs are principally important for the seabird colonies, most notably around the area of West Light, but also along sections of the north coast. This extensive habitat also supports a notable breeding population of Peregrine. Given the nature and scale of the proposed Maintenance Dredging Works and the distance of approximately 5.5 km to nearest SPA boundary (Rathlin SPA) the impact on the SPA features is insignificant.

Marine Habitats

Rathlin Island is a large inhabited marine island situated some 4 km from the north Antrim coast. There are basalt and chalk cliffs, some as high as 100 m, as well as several sea stacks on the north and west shores of the island. The south and east shores are more gently sloping with areas of maritime grassland and rocky shore. The length of the coastline is approximately 30 km. Rathlin Island is surrounded by a wide range of coarse sediment and rocky habitats. Strong tidal streams prevail around most of the island. A very wide range of species (530 species) were recorded around the island, including a high proportion of species of particular interest. Probably because of the strong tidal streams there is little silt around the island. Turbidity is generally low, with the infralittoral extending below 20 m, and water temperatures are stable, not rising much above 13°C in summer.

The North Antrim Coast SAC (~11 km to the west) is comprised of two continuous ASSIs – Giant's Causeway & Dunseverick and White Park Bay. The site is centred on the Giant's Causeway but extends from near Runkerry Strand in the west to White Park Bay in the east. The dominant features are the high basalt cliffs and associated habitat that extend from the west of the site to beyond Dunseverick Castle and the high chalk cliffs that back White Park Bay. The latter supports a range of dune and grassland communities, while a variety of grasslands are found along the active cliff series and areas of abandoned seastacks and cliffs. Heath communities are found along the cliff top in places while deeper peats and associated habitats are found inland.

Rathlin MCZ surrounds Rathlin Island with a large extension between the north of the Island and the North Channel. The MCZ encompasses an area of 90.57 km². The site has been designated for Deep-sea bed, Black guillemot and Geological/Geomorphological features. The MCZ contains the only known location of the broad scale habitat, Deep-sea bed in Northern Irish waters. This habitat is particularly unique in Northern Ireland inshore waters due to the steep drop-off in depth (>200 m), close proximity to land and a range of deep subtidal sands, mixed sediments and rock. Rathlin Island also supports a large population of Black guillemots (*Cephus grylle*) that nest within the Island's cliffs. Although Black guillemots have a widespread distribution throughout Northern Ireland there is a significant breeding and nesting population within Rathlin Island. Their reproductive success here may be related to the highly productive waters and rich feeding grounds within the MCZ. A range of subtidal geological and geomorphological features have also been recorded along the north coast of the Island including a submerged coastline, underwater caves, sea arches and lagoons. These are important indicators of global sea-level change.

The following Marine invasive non-native species have been recorded in the vicinity of the proposed development site: *Aplidium glabrum* (Colonial sea-squirt); *Corella eumyota* (Orange-tipped sea-squirt); *Monocorophium insidiosum* (An amphipod); *Bugula simplex* (A colonial bryozoan). The closest Annex 1 marine habitats is reef (adjacent), with no others within 7 km. However, given the proximity to Rathlin Island SAC and MCZ there remains the potential for adverse impact from the project on water quality and spread of invasive species. Therefore, potential risk to the achievement of the conservation objectives.

Marine Mammals

Harbour porpoise is a selection feature of Skerries & Causeway SAC (~15 km) and has been consistently recorded during more than 140 dedicated effort watches at six sites within the proposed boundary. These records span every month of the year, including months outside of the breeding and calving seasons and confirm the continuous presence of harbour porpoise within this area. Continuous or regular presence is graded A (excellent conservation). The SAC also contains non-qualifying Annex II species, grey seal, common seal, and bottlenose dolphin. Harbour porpoise is also a selection feature of North Channel SAC (~55 km), while grey seal is a selection feature of Maidens SAC (~40 km). The nearest Grey and Harbour seal haul-outs is approximately 6.6 km.

There will be no piling operations associated with the works. Therefore, there is no requirement to apply the JNCC, NRW, DAERA and Natural England '*Guidance for assessing the significance of noise disturbance against Conservation Objectives of Harbour Porpoise SACs*'. Given the nature of the proposed Maintenance Dredging Works, the working harbour location, and the absence of piling, the impact on harbour porpoise and other marine mammals is insignificant.

Coastal Processes & Climate Change

These are Maintenance Dredging Works required to maintain access to the harbour (including for the Rathlin Island Ferry). The harbour area is designated as 'low' in respect of the NI Coastal Erosion Risk Appraisal (DAERA Marine Map Viewer). There will be no land-take or impact on flood risk. Therefore, the proposed Maintenance Dredging Works are deemed not to represent a detrimental impact on coastal processes, taking into account future sea level rise and coastal erosion.

Other Relevant Designations

In addition to SPA & SAC features, CC&GBC is aware that the project site is close to Castle Point ASSI and Ballycastle Coalfield ASSI. Castle Point has been declared an ASSI because of its important geology and intertidal communities. Ballycastle Coalfield has been declared an ASSI because of its flora and geological features.

Given the location (within a working harbour), nature and scale of the proposed Maintenance Dredging Works, potential impacts on the key ASSI features are deemed insignificant.

Description of the Project or Plan:

Size and scale

A methodology has been prepared for the proposed Maintenance Dredging Works at Ballycastle and is included in the Draft Dredge Management Plan (Section 6.0) and summarised in Section 1.0.

The works are required to re-establish sufficient water depth at low tide for the Rathlin Ferry to dock at the quay and for boats to use the slipway and pontoons. An area of approximately 26,500 m² is proposed to be dredged in the harbour resulting in 31,200 m³ of deposited sands to be removed. The entrance of the harbour is to be dredged to -5.0 m CD. The inner harbour marina is to be dredged to -3.6 m CD with a small region to the south dredged to -2.6 m CD. The grading at 1 in 4 will tie the dredge level into the existing bed levels. A grading of 1 in 3 will be used adjacent to the head of the breakwater. Depth of dredge should be up to approximately 3 m. Dredged material will be removed to a DAERA licensed site (Ballycastle B: 55° 13.2'N 06° 14.4'W), located approximately 1.5 km north of Ballycastle Harbour (Figure 1d, Section 1.0). The works will commence in the harbour between February and June 2025. The relevant engineering drawings are presented in Figure 1b & 1c (Section 1.0). The Maintenance Dredging works will be undertaken by an appointed Contractor, who will be required to prepare and implement a robust Dredge Management Plan (Draft included in Section 6.0) considering the following DAERA 'Standing Advice' and Guidance:

- Development that may have an Effect on the Water Environment
- Marine Non-Native Species
- Marine Wildlife Disturbance

The works do not involve piling and a Marine Licence is being applied for.

Land-take

There will be no land-take within any designated site.

Distance from National Site Network site or key features of the site

The proposed Maintenance Dredging Works are approximately 5.5 km south of Rathlin Island SPA, SAC & MCZ, 11 km east of North Antrim Coast SAC, approximately 15 km east of Skerries & Causeway SAC, approximately 40 km north west of Maidens SAC and approximately 55 km north west of North Channel SAC.

Resource requirements (water abstraction etc.)

There are no resources required for the proposed works.

Emission (disposal to land, water or air)

There will be no emissions during the proposed works.

Excavation requirements

The works are required to re-establish sufficient water depth at low tide for the Rathlin Ferry to dock at the quay and for boats to use the slipway and pontoons. An area of approximately 26,500 m² is proposed to be dredged in the harbour resulting in 31,200 m³ of deposited sands to be removed. The entrance of the harbour is to be dredged to -5.0 m CD. The inner harbour marina is to be dredged to -3.6 m CD with a small region to the south dredged to -2.6 m CD. The grading at 1 in 4 will tie the dredge level into the existing bed levels. A grading of 1 in 3 will be used adjacent to the head of the breakwater. Depth of dredge should be up to approximately 3 m. Dredged material will be removed to a DAERA licensed site (Ballycastle B: 55° 13.2'N 06° 14.4'W), located approximately 1.5 km north of Ballycastle Harbour. In February 2024, a Best Practicable Environmental Option (BPEO) Report was prepared by Envirocentre in support of the Marine Licence Application. This report considered data from sediment analysis undertaken by Geotechnical Environmental Services Ltd in August 2023. From 11 samples, all exceeded Existing Action Level (EAL) 1 for Chromium and Nickel only and none exceeded EAL 2. The BPEO Report concluded:

'Given that the averaged concentrations, which account for the dredge as a single volume for disposal do not exceed the Effects Range Low (ERL) or Probable Effects Level (PEL), significant adverse effects on marine organisms are considered to be unlikely. Any potential impacts on water quality as a result of the disposal activity are considered to be both localised and temporary, with the potential for dilution in the open waters beyond the disposal site is considerable. It is assumed that the allocated disposal site will be dispersive in nature. The key risk to water quality is considered to be an increase in turbidity/suspended solids during the disposal activity (i.e. placement on the seabed at the disposal site). Although this is likely to cause localised increase in suspended solids at the disposal site, it is considered that this will be both local and temporary in nature. On the basis of the further assessment of the parameters which exceeded EAL1, significant adverse effects on the marine environment are considered unlikely as a result of the proposed dredging and disposal activity.'

The critical Report finding is that sea disposal is the BPEO for the Ballycastle dredging project.

Transportation requirements

It is anticipated that a long reach excavator will be used by the contractor to dredge the material. The excavator will be located on a pontoon with a split hopper barge moored alongside. It is envisaged that the pontoon and excavator will be set in place by crane from the harbour, under suitable traffic and pedestrian access arrangements. There will be no significant on-land transportation issues.

Duration of construction, operation, decommissioning etc.

The Maintenance Dredging Works will take place between February and June 2025.

Other: N/A

Is the Project or Plan directly connected with or necessary to the management of the site (provide details)?

No The proposed works are to ensure safe vessel movements to and from the working harbour (including for the Rathlin Island Ferry).

Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to effects on the SAC/SPA site:		
Feature affected:	Likely direct, indirect effects to the feature arising as a result of:	Significant/Not Significant (inc. explanation):
<i>Peregrine Falcon</i>	<p>Reduction of habitat area: None</p> <p>Disturbance: No disturbance</p> <p>Habitat or species fragmentation: None</p> <p>Reduction in species density: None</p> <p>Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes</p>	<p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>(Contractor required to adhere to Dredge Management Plan)</p>
<i>Razorbill</i>	<p>Reduction of habitat area: None</p> <p>Disturbance: No disturbance</p> <p>Habitat or species fragmentation: None</p> <p>Reduction in species density: None</p> <p>Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes</p>	<p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>(Contractor required to adhere to Dredge Management Plan)</p>
<i>Guillemot</i>	<p>Reduction of habitat area: None</p> <p>Disturbance: No disturbance</p> <p>Habitat or species fragmentation: None</p> <p>Reduction in species density: None</p> <p>Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes</p>	<p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>(Contractor required to adhere to Dredge Management Plan)</p>
<i>Kittiwake</i>	<p>Reduction of habitat area: None</p> <p>Disturbance: No disturbance</p> <p>Habitat or species fragmentation: None</p> <p>Reduction in species density: None</p> <p>Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes</p>	<p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>(Contractor required to adhere to Dredge Management Plan)</p>

Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to effects on the SAC/SPA site:		
Feature affected:	Likely direct, indirect effects to the feature arising as a result of:	Significant/Not Significant (inc. explanation):
Assemblage species	<p>Reduction of habitat area: None</p> <p>Disturbance: No disturbance</p> <p>Habitat or species fragmentation: None</p> <p>Reduction in species density: None</p> <p>Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes</p>	<p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>(Contractor required to adhere to Dredge Management Plan)</p>
Submerged or Partially Submerged Sea caves	<p>Reduction of habitat area: None</p> <p>Disturbance: No disturbance</p> <p>Habitat or species fragmentation: None</p> <p>Reduction in species density: None</p> <p>Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes</p>	<p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Potentially Significant: Contractor required to adhere to Dredge Management Plan</p>
Annual Vegetation of Drift Lines	<p>Reduction of habitat area: None</p> <p>Disturbance: No disturbance</p> <p>Habitat or species fragmentation: None</p> <p>Reduction in species density: None</p> <p>Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes</p>	<p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Potentially Significant: Contractor required to adhere to Dredge Management Plan</p>
Reefs	<p>Reduction of habitat area: None</p> <p>Disturbance: No disturbance</p> <p>Habitat or species fragmentation: None</p> <p>Reduction in species density: None</p> <p>Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes</p>	<p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Potentially Significant: Contractor required to adhere to Dredge Management Plan</p>
Sandbanks which are Slightly Covered by Sea Water all the Time	<p>Reduction of habitat area: None</p> <p>Disturbance: No disturbance</p> <p>Habitat or species fragmentation: None</p> <p>Reduction in species density: None</p> <p>Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes</p>	<p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Potentially Significant: Contractor required to adhere to Dredge Management Plan</p>

Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to effects on the SAC/SPA site:		
Feature affected:	Likely direct, indirect effects to the feature arising as a result of:	Significant/Not Significant (inc. explanation):
<i>Vegetated Sea Cliffs of the Atlantic and Baltic Coasts</i>	<p>Reduction of habitat area: None</p> <p>Disturbance: No disturbance</p> <p>Habitat or species fragmentation: None</p> <p>Reduction in species density: None</p> <p>Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes</p>	<p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted (Contractor required to adhere to Dredge Management Plan)</p>
<i>Fixed Dunes with Herbaceous Vegetation ("grey dunes")</i>	<p>Reduction of habitat area: None</p> <p>Disturbance: No disturbance</p> <p>Habitat or species fragmentation: None</p> <p>Reduction in species density: None</p> <p>Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes</p>	<p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted (Contractor required to adhere to Dredge Management Plan)</p>
<i>Species-rich Nardus Grassland, on Siliceous Substrates in Mountain Areas</i>	<p>Reduction of habitat area: None</p> <p>Disturbance: No disturbance</p> <p>Habitat or species fragmentation: None</p> <p>Reduction in species density: None</p> <p>Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes</p>	<p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted (Contractor required to adhere to Dredge Management Plan)</p>
<i>Atlantic Salt Meadows (Glaucopuccinellietalia maritimae)</i>	<p>Reduction of habitat area: None</p> <p>Disturbance: No disturbance</p> <p>Habitat or species fragmentation: None</p> <p>Reduction in species density: None</p> <p>Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes</p>	<p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted (Contractor required to adhere to Dredge Management Plan)</p>
<i>Shifting Dunes along the Shoreline with Ammophila arenaria ("white dunes")</i>	<p>Reduction of habitat area: None</p> <p>Disturbance: No disturbance</p> <p>Habitat or species fragmentation: None</p> <p>Reduction in species density: None</p> <p>Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes</p>	<p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted (Contractor required to adhere to Dredge Management Plan)</p>

Feature affected:	Likely direct, indirect effects to the feature arising as a result of:	Significant/Not Significant (inc. explanation):
<i>Vertigo angustior</i>	<p>Reduction of habitat area: None</p> <p>Disturbance: No disturbance</p> <p>Habitat or species fragmentation: None</p> <p>Reduction in species density: None</p> <p>Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes</p>	<p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted (Contractor required to adhere to Dredge Management Plan)</p>
<i>Harbour Porpoise</i>	<p>Reduction of habitat area: None</p> <p>Disturbance: No disturbance</p> <p>Habitat or species fragmentation: None</p> <p>Reduction in species density: None</p> <p>Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes</p>	<p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted (No piling or rock breaking)</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted (Contractor required to adhere to Dredge Management Plan)</p>
<i>Grey Seal</i>	<p>Reduction of habitat area: None</p> <p>Disturbance: No disturbance</p> <p>Habitat or species fragmentation: None</p> <p>Reduction in species density: None</p> <p>Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes</p>	<p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted (No piling or rock breaking)</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted</p> <p>Not Significant: feature not impacted (Contractor required to adhere to Dredge Management Plan)</p>

Describe any potential effects on the National Site Network site as a whole in terms of: interference with the key relationships that define the structure or function of the site	Effect considered significant/non-significant: Finding of No significant effects Matrix
Potential impact from dredging activities in respect of pollution risk and spread of invasive species in open water taking cognisance of hydrological linkage to Rathlin Island SAC.	Potentially significant - due to risk of pollution and spread of invasive species.
Provide details of any other projects or plans that together with the project or plan being assessed could (directly or indirectly) affect the site.	Provide details of any likely in-combination effects and quantify their significance -
None	None
Is the potential scale or magnitude of any effect likely to be significant?	
Alone?	No <input type="checkbox"/> Yes <input checked="" type="checkbox"/>
In-combination with other projects of plans?	No <input checked="" type="checkbox"/> Yes <input type="checkbox"/>
List of Agencies Consulted: Provide contact name and telephone or email address.	DAERA Marine Conservation & Reporting Team
Summary of response to consultation received	Potential significant effects identified
Conclusion: Is the proposal likely to have a significant effect on an NSN site?	No <input type="checkbox"/> Yes <input checked="" type="checkbox"/>

Who carried out the assessment?	MARENCO Environmental Consultants
Sources of data	DAERA (Consultation & data provision) Doran Consulting (Project design)
Level of assessment completed	Test of Likely Significance & Appropriate Assessment Report
Where can the full results of the assessment be accessed and viewed?	Doran Consulting Norwood House 96-102 Great Victoria Street Belfast BT2 7BE
Summary of response.	Potential impact from dredging activities in respect of pollution risk and spread of invasive species in open water taking cognisance of hydrological linkage to Rathlin Island SAC.

4.0 STAGE 2: APPROPRIATE ASSESSMENT

Assessment of Effects of the Project or Plan on the Integrity of the Site	
<p>Describe the elements of the project or plan (alone or in combination with other projects or plans) that are likely to give rise to significant effects on the site (from screening assessment)</p>	<p>Dredging activities present potential risk of pollution and spread of invasive species.</p>
<p>Set out the Conservation Objectives of the site</p>	<p><i>From RATHLIN ISLAND SAC UK0030055 CONSERVATION OBJECTIVES, DAERA 13th October 2017:</i></p> <p>For Submerged or partially submerged sea caves:</p> <ol style="list-style-type: none"> 1. <i>Maintain and enhance, as appropriate the extent of the submerged or partially submerged sea caves</i> 2. <i>Allow the natural processes which determine the development, structure, function and extent of the submerged or partially submerged sea caves, to operate appropriately</i> <p>For Annual vegetation of drift lines:</p> <ol style="list-style-type: none"> 1. <i>Maintain and enhance the extent of annual vegetation of drift lines subject to natural processes</i> 2. <i>Allow the natural processes which determine the development and extent of annual vegetation of drift lines to operate appropriately</i> 3. <i>Maintain and enhance, as appropriate, the species diversity within this community including the presence of notable species</i> <p>For Reefs:</p> <ol style="list-style-type: none"> 1. <i>Maintain and enhance, as appropriate the extent of the reefs</i> 2. <i>Allow the natural processes which determine the development, structure, function and extent of the reefs, to operate appropriately</i> 3. <i>Maintain and enhance, as appropriate, the species diversity within this habitat.</i> <p>For Sandbanks which are slightly covered by sea water all the time:</p> <ol style="list-style-type: none"> 1. <i>Allow the natural processes which determine the development, structure and extent of sandbanks which are slightly covered by sea water all the time, to operate appropriately</i> 2. <i>Maintain and enhance, as appropriate, the species diversity within this habitat</i> 3. <i>Maintain the extent and volume of sandbanks which are slightly covered by sea water all the time, subject to natural processes</i>

<p>Set out the Conservation Objectives of the site</p>	<p>For Vegetated sea cliffs of the Atlantic and Baltic coasts</p> <ol style="list-style-type: none"> 1. <i>Maintain the extent of vegetated sea cliff subject to natural processes</i> 2. <i>Allow the natural processes which determine the development and extent of vegetated sea cliffs to operate appropriately</i> 3. <i>Maintain and enhance, as appropriate, range of maritime rock crevice and cliff ledge communities</i> 4. <i>Maintain and enhance, as appropriate, range of sea-bird cliff communities</i> 5. <i>Maintain and enhance, as appropriate, range of maritime grassland communities</i> 6. <i>Maintain and enhance, as appropriate, range of maritime heath communities</i> 7. <i>Maintain and enhance, as appropriate, range of transitions and other communities</i> 8. <i>No increase in status of non-native species, undesirable invasive species and species not characteristic of typical communities</i> 9. <i>Maintain and enhance, as appropriate, status of rare and notable species</i> 10. <i>Monitor cliff top or near cliff management activities to ensure they do not lead to loss or enrichment of sea cliff associated.</i>
---------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<p>Describe how the project or plan will affect key species, key habitats and the integrity of the site (determined by structure and function and conservation objectives). Acknowledge uncertainties and any gaps in information.</p>	<p>Potential impact from dredging activities in respect of pollution risk and spread of invasive species in open water taking cognisance of hydrological linkage to Rathlin Island SAC.</p>
<p>Describe what mitigation measures are to be introduced to avoid or reduce the adverse effects on the integrity of the site. Acknowledge uncertainties and any gaps in information.</p>	<ol style="list-style-type: none"> 1. Full adherence to Marine Licence 2. Full adherence to Contractors Method Statement and Dredge Management Plan, ensuring the following DAERA ‘Standing Advice’ and Guidance are fully considered: <ul style="list-style-type: none"> • Development that may have an Effect on the Water Environment • Marine Non-Native Species • Marine Wildlife Disturbance 3. Full adherence to Marine Non-Native Species ‘Inspect, Remove, Clean, Dispose & Report’ approach 4. Full adherence to Disposal Site Conditions

Appropriate Assessment: Mitigation Measures			
List measures to be introduced	Explain how the measures will avoid the adverse effects on the integrity of the site.	Explain how the measures will reduce the adverse effects on the integrity of the site.	Provide evidence of how they will be implemented and by whom.
(i) Full adherence to Marine Licence	Marine Licence will impose appropriate conditions to protect SAC site designation features during dredging phase.	Conditions will minimise potential for adverse pollution impacts.	Contractor will be required to adhere to all statutory licence conditions.
(ii) Full adherence to Dredge Management Plan	Comprehensive Dredge Management Plan established to maintain an ethos of environmental best practice throughout the project.	Procedural control over identified potential environmental risks.	Project Contractor will be required to retain evidence that Dredge Management Plan is fully implemented and that appropriate 'Tool-Box Talks' have been delivered.
(iii) Full adherence to Marine Non-Native Species 'Inspect, Remove, Clean, Dispose & Report' approach	Dredge Management Plan will include specific reference to marine non-native species.	Specific procedural control over marine non-native species risks.	Project Contractor will be required to retain evidence that Dredge Management Plan is fully implemented and that appropriate 'Tool-Box Talks' have been delivered (including in relation to marine non-native species).
(iv) Full adherence to Disposal Site Conditions	Conditions for Disposal Site use will impose appropriate protections on SAC site designation features during dredging and disposal phase.	Conditions will minimise potential for adverse pollution impacts.	Contractor will be required to adhere to all statutory licence conditions.

Appropriate Assessment: Mitigation Measures			
List mitigation measures (as above)	Provide evidence of the degree of confidence in their likely success	Provide time-scale, relative to the project of plan, when they will be implemented	Explain the proposed monitoring scheme and how any mitigation failure will be addressed
(i) Full adherence to Marine Licence	Statutory compliance will be a key requirement for Project Contractor.	Clear instruction on all statutory compliance issues will be delivered prior to commencement of works and will be audited during dredging phase. Statutory Agencies will conduct site inspections at their discretion.	Project Contractor will be audited by Design Engineers. Issues identified will be subject to immediate corrective action.
(ii) Full adherence to Dredge Management Plan	The specific Dredge Management Plan procedures for pollution control and invasive species, including mitigation, represent current best practice techniques for pollution prevention.	The Dredge Management Plan has been established prior to commencement of works.	The Dredge Management Plan will be subject to appropriate review. Issues identified will be subject to immediate corrective action.
(iii) Full adherence to Marine Non-Native Species 'Inspect, Remove, Clean, Dispose & Report' approach	This approach is recommended by DAERA to ensure the risk of spread of marine non-native species is negligible.	This approach will be embedded in Dredge Management Plan which has been established prior to commencement of works.	The Dredge Management Plan will be subject to appropriate review. Issues identified in respect of marine non-native species will be subject to immediate corrective action.
(iv) Full adherence to Disposal Site Conditions	Statutory compliance will be a key requirement for Project Contractor.	Clear instruction on all statutory compliance issues will be delivered prior to commencement of works and will be audited during dredging phase. Statutory Agencies will conduct site inspections at their discretion.	Project Contractor will be audited by Design Engineers. Issues identified will be subject to immediate corrective action.

5.0 CONCLUSIONS

A Stage 1 Test of Likely Significance (Section 3.0) found that the proposed maintenance dredging works at Ballycastle Harbour would result in:

‘Potential impact from dredging activities in respect of pollution risk and spread of invasive species in open water taking cognisance of hydrological linkage to Rathlin Island SAC.’

Consequently, a Stage 2 Appropriate Assessment (AA) was conducted (Section 4.0). This AA concentrated on the Rathlin Island SAC.

Conservation objectives relevant to the designated site selection features were considered, current site information assessed, and the precautionary principle applied. In addition, potential impacts were considered alone and in combination with other relevant projects.

In respect of potential water pollution risk, the critical BPEO Report finding is that sea disposal is the best option for the Ballycastle Harbour dredging project. The works will be subject to Marine Licence and Disposal at Sea Licence conditions. In addition, the appointed Contractor will work to the requirements of the Dredge Management Plan that takes into account DAERA ‘Standing Advice’ and Guidance and requires that strict protocols be in place for chemicals and hazardous materials.

Recognising that there are currently approximately 100 invasive non-native freshwater and marine species established in Northern Ireland, strict protocols will be in place in respect of plant and equipment used on-site. In accordance with DAERA ‘Standing Advice’ on Marine Non-Native Species, these protocols will be based on the ‘Inspect, Remove, Clean, Dispose & Report’ approach promoted by DAERA and Invasive Species NI. Plant and equipment will be subject to the following prior to leaving its previous location:

- **Inspect** all equipment that has been in a waterbody (boats, trailers, engines, outboards, dredgers, weed cutting or harvesting boats, cruisers or even clothing) or terrestrial site for attached vegetation, contaminated soil or obvious animal life before moving to another waterway, catchment or site
- **Remove** any adhering plant, soil or animal material from your equipment for disposal before relocating to another watercourse, section of waterway or site. Ensure that all water is drained from your boat and equipment before transportation to another site and all soil is removed from machinery, as this may contain seed or plant fragments
- **Clean** all equipment with a power hose away from the waterbody. Use hot water (>60 degrees centigrade) where possible
- **Dispose** of all plant and animal material in bags or containers for disposal in bins. Do not throw them back into the water or leave them lying at the water’s edge

- **Report** and take photos of species you think may be an INNS on the Invasive Species NI website

The above will also be applied to plant and equipment prior to removal from site on completion of works.

The AA concludes that in consideration of the appropriate mitigation measures proposed, there will be no adverse impact on the integrity of Rathlin Island SAC or any other designated site.

6.0 SUPPORTING DOCUMENTATION

Draft Dredge Management Plan

DRAFT DREDGE MANAGEMENT PLAN

BALLYCASTLE



CCGBC DREDGING

23 April 2024



Doran
CONSULTING
DELIVERING ENGINEERING EXCELLENCE

DRAFT DREDGE MANAGEMENT PLAN

BALLYCASTLE

23 April 2024

Job no	Prepared by	Checked by	Approved by	Status	Issued to	No of copies	Date
221053	LG	PMM	CD	P02	PMCA	*e	23/04/24
221053	LG	PMM	CD	P01	PMCA	*e	25/03/24

CONTENTS

1.0	INTRODUCTION	2
2.0	DREDGING OPERATIONS	4
3.0	ENVIRONMENTAL CONSIDERATIONS	8
4.0	DREDGE AND DISPOSAL MONITORING	14

1.0 INTRODUCTION

1.1 PROJECT OVERVIEW

- 1.1.1 Causeway Coast and Glens Borough Council (CCG) are planning to carry out maintenance dredging works at Ballycastle Harbour in Spring 2025.
- 1.1.2 Ballycastle Harbour is located on the North Coast of Ireland on the western side of Ballycastle Bay. Ballycastle Bay stretches between Kinbane Head and Fair Head and is enclosed to the north by Rathlin Island. A ferry serves Rathlin Island from the northern breakwater in Ballycastle Harbour and a marina occupies the south end of the harbour.
- 1.1.3 The objective of the dredging is to re-establish sufficient water depth at low tide for the Rathlin Ferry to dock at the quay and for boats to use the slipway and pontoons.
- 1.1.4 The works will involve the dredging of recently deposited sands and silts. A detailed construction method statement will be prepared by the appointed Contractor.

1.2 DREDGE MANAGEMENT PLAN (DMP)

- 1.2.1 This document has been prepared by Doran Consulting to provide a framework for the management of the proposed dredging operations. Although this document has been produced by Doran Consulting, Doran Consulting do not accept any responsibility for the contents of assessments, plans or construction procedures that are carried out or added by other parties. This document is considered to be 'Draft' and will be developed by the Contractor upon appointment of the contract.
- 1.2.2 The DMP will specify how dredging practices and procedures should be designed to ensure any actual or potential adverse effects on the receiving environment are avoided, or otherwise mitigated to the greatest extent practicable.
- 1.2.3 Mitigation will be implemented to ensure there is minimal impact resulting from the proposed activities on the receiving environment within Ballycastle Bay.

1.3 LEGISLATIVE REQUIREMENTS

- 1.3.1 The Maintenance Dredging Works will be undertaken by an approved contractor, who will be required to prepare and implement a robust Dredge Management Plan considering the following DAERA 'Standing Advice': *Development that may have an Effect on the Water Environment; Marine Non-Native Species; Marine Wildlife Disturbance*. In respect of

potential water pollution risk, the appointed approved Contractor will work to strict protocols in respect of chemicals, hazardous materials and fuelling arrangements.

1.3.2 All proposed dredging and disposal at sea activities are to comply with:

- BS 6349-5:2016 Maritime Works – Code of Practice for dredging and land reclamation
- Dumping at Sea Act 1974
- All Environmental Regulatory requirements;
- ISO Standards (14001, 50001 along with 9001 as appropriate to the context);
- Client Rules and Procedures;
- DAERA dredge license conditions for the Project;
- DAERA disposal license conditions for the Project;
- Industry guidance as appropriate; and
- Local and Community considerations

2.0 DREDGING OPERATIONS

2.1 DREDGE QUANTITIES

2.1.1 The entrance channel of the harbour is to be dredged to a level of -5.0m CD. The inner harbour marina is to be dredged to a level of -3.6m CD with a small region to the south dredged to a level of -2.6m CD. The side batters will have a grading of 1 in 4. A grading of 1 in 3 will be used adjacent to the head of the breakwater. Depth of material removed during the dredging exercise will be up to approximately 3m. The dredge plan is shown in Figure 2.1.

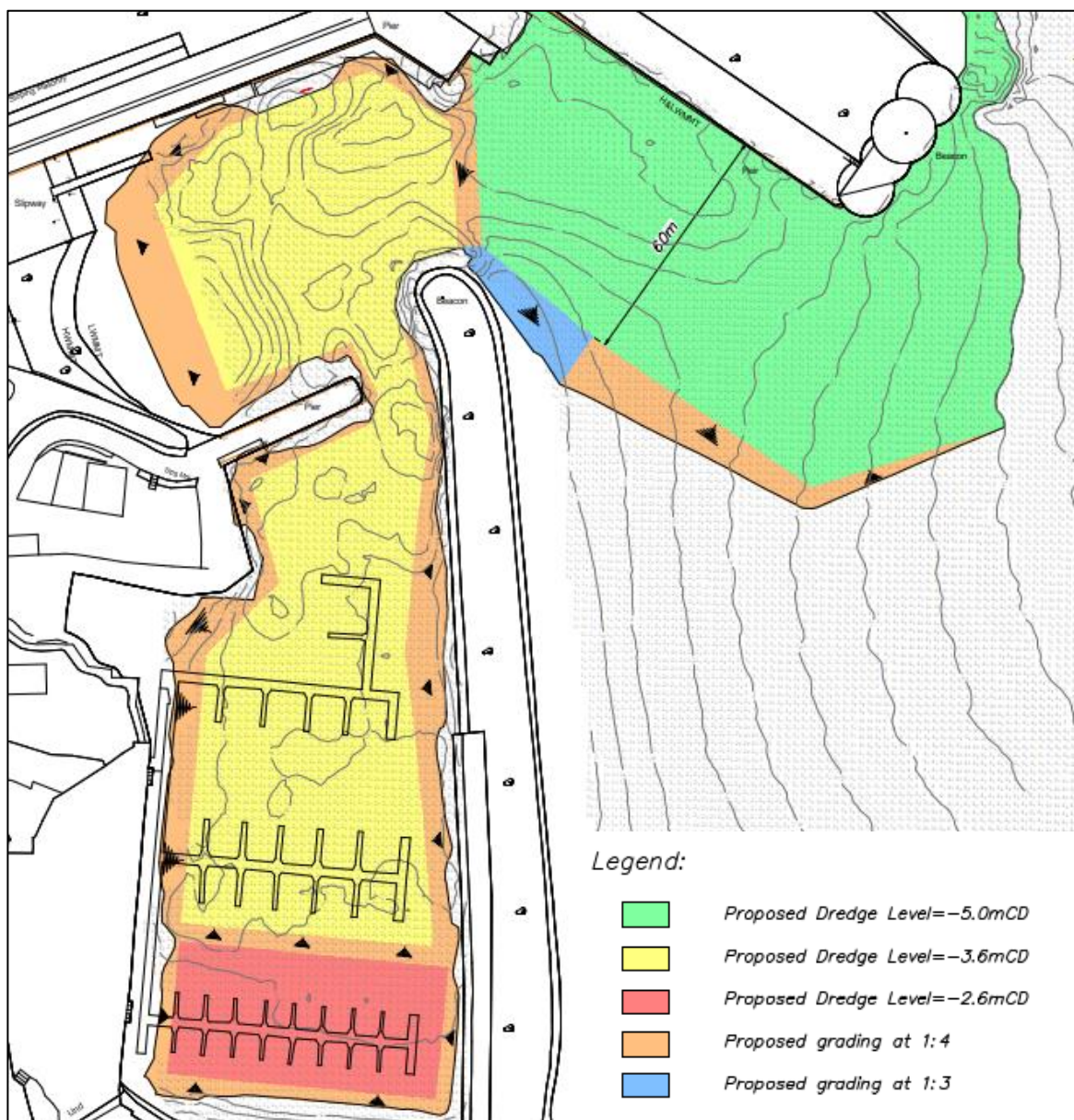


Figure 2.1 – Dredge Extent

2.1.2 The proposed dredge area is approximately 26,500m² in plan area. This dredge will result in the removal of 31,200m³ of recently deposited sands and silts.

2.2 DREDGE METHODOLOGY

2.2.1 The methodology below is a preliminary outline and is subject to confirmation by the appointed Contractor.

- Dredging will commence within the harbour during the off-season. Only silts, sands & gravels are to be dredged and dredging operations shall be carried out to the extent indicated on the drawings.
- It is anticipated that a long reach excavator will be located on a pontoon with a split hopper barge moored alongside. Dredged material will be placed in the split hopper barge and filled to level. Alternatively, the contractor may source a self-propelled split hopper barge with a long reach excavator mounted on board.
- In the inner harbour marina, the pontoon sections will be disconnected and the localised bed area dredged before the pontoons are reconnected. The contractor may use suction dredging in the marina, as an alternative to the backhoe dredger, due to the shallower depths and presence of fine silts.
- A 3-dimensional model of the target dredge profile shall be produced and uploaded onto the 3D GPS dig system of the excavator. The excavator will be fitted with several positional sensors on the bucket, stick and boom together with the GPS receivers for positional correction which will ensure the bucket is always dredging to the correct levels. A quayside benchmark will be established with a known position and elevation to enable regular bucket checks to be carried out to confirm the accuracy of the bucket positioning.
- A line of buoys will be deployed, in agreement with the Harbour Master, to delineate the dredge works area as a constant visual reminder for the Harbour Users.
- The excavator will carefully excavate the material to the required dredge levels taking care not to damage existing structures or create excessive suspended solids.

2.2.2 Dredge plant will maintain a daily electronic dredge log. The dredging log shall be a live document to be updated each day, resulting in a comprehensive record of the entire dredge campaign.

The daily dredge log shall, as a minimum, record details of dredging work including:

- Location of dredging in the last 24 hours;
- Proposed location of dredging for the next 24 hours;

2.3.4 The disposal operations will include:

- The split hopper barge will be towed to a designated disposal site. The dredge material will be released through the hull of the split hopper barge while the vessel is in motion to aid the dispersion of sediments over the full dump site area.
- It should be noted that no overtopping of barges or decanting of water from the barges back into the tidal waters will be allowed. Any such event shall be dealt with as a spillage of dredge material.
- The route of the sea disposal vessel shall be recorded as required by DAERA. The volume of material to be discharged per day, frequency of trips per-day and the estimated traveling time will be confirmed by the Contractor prior to Award.

2.3.5 An electronic disposal log will be maintained as a live document showing a comprehensive record of the disposal campaign. The log shall record and report, as a minimum, the following:

- The name of the vessel;
- The source of the substance/ material;
- The date, time and position at which the voyage for the purposes of dumping began;
- The date, time and position at which the loading began;
- The date, time and position at which the loading ended;
- The date, time and position at which dumping began;
- The date, time and position at which dumping ended;
- The quantity, states in metric tonnes, of the substance or material dumped;
- The date, time and position at which the vessel completed the voyage for the purpose of dumping; and
- Logged vessel track record data.

2.4 PLANT AND VESSELS

2.4.1 The Contractor must have operational and active AIS vessel tracking during all operations.

2.4.2 Any vessel deployed shall be serviced in accordance with good marine practice and must be fit for that purpose.

2.4.3 All vessels are to be clearly marked with a vessel number and fitted with a VHF Radio, horn and be suitably lit in accordance with the International Maritime Standards.

2.4.4 A notice to mariners shall be issued prior to commencement of the activities to advise all vessels entering or leaving Ballycastle Harbour that the works are taking place.

3.0 ENVIRONMENTAL CONSIDERATIONS

3.1 ENVIRONMENTAL MITIGATION

3.1.1 Mitigation measures shall be implemented for the duration of dredging, loading and disposal operations to remove/ reduce the associated environmental risk.

3.1.2 On review of the site environmental sensitivities and proposed construction activities the following topic areas have been identified which specifically require mitigation measures:

- Potential impacts on marine mammals from underwater noise;
- Potential impacts on the water environment; and
- Potential impacts on terrestrial ecology.

3.1.3 The above list is not exhaustive and appropriate mitigation measures shall be identified as required by the Contractor to ensure the environment is protected during their operations.

3.2 WATER QUALITY

3.2.1 There are risks of accidental pollution from the following sources when working in a marine environment:

- Spillage or leakage from oils and fuels from construction machinery, plant, barge etc.;
- Spillage of oil or fuels when re-fuelling; and
- Suspended sediments from construction works.

3.2.2 Spillages

- All plant and equipment should be checked daily for oil and fuel leaks and records of checks kept.
- Plant and equipment will be in good working order, kept clean and fitted with drip trays where appropriate.
- Minimise the stored volumes of fuel, lubricants and oil on board the barge. When required they will be stored in a secure area and any spills will be cleaned immediately. Any visible or reasonably suspected fuel, lubricant or hydraulic fluid loss will be treated as an 'incident'.
- Personnel will be trained in environmental spill response and will be well equipped to clean any spillage should it occur.

- Both oil and chemical spill kits will be available on site and will be held in a location that is accessible to all including on floating plant.
- Refueling of plant and machinery will take place in a designated area away from water or when this is impractical (i.e. floating plant) follow an agreed procedure.
- Vehicles are not to be left unattended during refueling.
- Petrol/Diesel are to be stored in a bunded secure area. Tanks are to be inspected for leaks. Ensure that delivery hoses are in good condition.
- Any leaks from plant releasing diesel/petrol/oil substances will be immediately isolated, contained and cleaned away using the appropriate kit.
- Contaminated spill kit material will be disposed of to a licensed waste facility.

3.2.3 Pollution Prevention and Emergency Spillage Response

- The Contractor is required to do everything practicable to minimise the potential for a spill. A management plan is to be prepared providing site spill responses, emergency contact details, equipment inventories etc.
- Spill kits will be kept on site and the contents should have the capacity to deal with the inventory of products that will be stored and handled on site. Spill kits are likely to contain absorbent mats, drain covers, bilge socks, floating “booms”, oil-absorbent granules, polythene sheeting and bags, blow back refueling collar etc.
- Spill containment equipment for minor hydraulic spills from tools etc. will be located within the working area. Containment can be effective by the placement of spill kit equipment local to the potential source of an incident which can be effectively cleaned up preventing any environmental risk.
- An Oil Spill Contingency Plan will be drawn up which will be activated for any larger spill occurrence.
- For larger spills or releases, containment equipment should be sufficient to prevent spills or releases contaminating the environment and provide additional time to conduct an effective clean-up operation, with or without the help of specialists.
- A specialist spill contractor will be identified that can be called upon should there be a requirement to control a significant spill.

3.2.4 COSHH

- Prior to use, any potentially hazardous materials will have a COSHH assessment carried out and any required control measures put in place. Anticipated COSHH requirements are, but not limited to, hydraulic oils, diesel fuel, lubricating oil and lithium Grease.
- Storage of all hazardous substances will be controlled in accordance with COSHH Regulations.
- COSHH items are to be stored in a suitable COSHH store. All items should be labelled.
- A register should be maintained containing all harmful substances intended to be used on this project.

3.2.5 Suspended Solids

- The direction of dredging works will be orientated with the current, instead of across the current to minimise the potential for negative effects on water quality.

3.3 ECOLOGY

3.3.1 Appropriate regard for the protection of local habitats, designated sites and protected species will be given during dredging and disposal operations.

3.3.2 Flora & Fauna

- All reasonably practicable measures will be employed to minimise harm to, and disturbance of, wildlife caused by noise, dust, waste and pollution.
- Ensure no activities outside the works zone through clear delineation of the works area, and communication in site inductions.
- Site inductions for all barge crew/ construction personnel covering procedures to be undertaken to minimise disturbance to marine fauna.
- Regular inspections will be undertaken to check that detrimental impacts on ecological features are being minimised.
- Ensure that there are no physical barriers to marine faunal species movement through the water at all times.

3.3.3 Invasive Species

- The following Marine invasive non-native species have been recorded in the vicinity of the dredge site:
 - *Aplidium glabrum* (Colonial sea-squirt)
 - *Corella eumyota* (Orange-tipped sea-squirt)
 - *Monocorophium insidiosum* (An amphipod)
 - *Bugula simplex* (A colonial bryozoan)

- In accordance with DAERA 'Standing Advice' on Marine Non-Native Species strict protocols will be in place in respect of plant and equipment used on-site. These protocols will be based on the 'Inspect, Remove, Clean, Dispose & Report' approach promoted by DAERA and Invasive Species NI. Plant and equipment will be subject to the following prior to leaving its previous location:
 - **Inspect** all equipment that has been in a waterbody (boats, trailers, engines, outboards, dredgers, weed cutting or harvesting boats, cruisers or even clothing) or terrestrial site for attached vegetation, contaminated soil or obvious animal life before moving to another waterway, catchment or site.

 - **Remove** any adhering plant, soil or animal material from your equipment for disposal before relocating to another watercourse, section of waterway or site. Ensure that all water is drained from your boat and equipment before transportation to another site and all soil is removed from machinery, as this may contain seed or plant fragments.

 - **Clean** all equipment with a power hose away from the waterbody. Use hot water (>60 degrees centigrade) where possible.

 - **Dispose** of all plant and animal material in bags or containers for disposal in bins. Do not throw them back into the water or leave them lying at the water's edge.

 - **Report** and take photos of species you think may be an INNS on the Invasive Species NI website.

- The above will also be applied to plant and equipment prior to removal from site on completion of works.

- If the presence of an invasive species is found at or adjacent to the site, an invasive species management plan will be prepared to prevent the introduction or spread of any invasive alien species within the footprint of the works.

- An invasive alien species (IAS) management Plan, will be prepared if required, which will set out best practice control methods, and will consider the following:
 - Invasive Species Northern Ireland website (<https://invasivespeciesni.co.uk/>); and
 - DAERA Marine Invasive Non-native Species Guidance (<https://www.daera-ni.gov.uk/articles/marine-invasive-non-native-species-guidance>).

3.4 NOISE

3.4.1 The Contractor will follow best practicable means to reduce the noise effect on the local community, ecology and underwater noise on marine mammals in compliance with British Standard BS5228:2009+A1:2014 ± Noise and vibration control on construction and open sites.

3.4.2 A soft start procedure will be adopted for dredging activities to allow any marine mammals present to vacate the area.

3.4.3 Plant & Equipment

- Careful consideration will be given to the appropriate selection of plant, working methods and programming.
- Modern, silenced and well-maintained plant will be used at all times.
- Equipment and vehicles to be shut down when not in use or throttled down to a minimum.
- As far as reasonably practicable, any plant, equipment or items fitted with noise control equipment found to be defective will not be operated until repaired.

3.5 LIGHTING

3.5.1 While security and safety lighting are required, there will be a balance between achieving appropriate lighting levels and avoiding unnecessary light spillage, pollution and glare.

3.5.2 The use of artificial lighting during dredging operations will be minimised to reduce the impact on terrestrial and marine fauna. Temporary lights, if used, will be fitted with shades to prevent light spillage outside the working area.

3.6 WASTE MANAGMENT

3.6.1 The project will adhere to the principles of sustainable waste management where waste prevention is the priority followed by reuse, recovery and recycling and as such the generation of waste will be minimised.

3.6.2 Each waste type will be classified as inert waste, non-hazardous waste or hazardous waste according to listings from the European Waste Catalogue. Each waste stream will be managed safely and legally, through a combination of re-use (on site or off-site), recycling or disposal.

- Waste containers (bins and skips) are impermeable and will prevent liquid wastes leaching.
- Sufficient space on site has been allocated for waste storage and segregation. Waste containers are clearly labelled for difference waste types to aid in segregation and are checked regularly.
- Separate facilities are provided for hazardous waste.
- Any run-off from the bunded storage area within the construction compound, and wastewater from machinery wash down will drain to foul sewer or to an appropriate water treatment and recycling system.
- Environmental records, including waste management records, will be maintained in accordance with the respective company procedure and legal requirements.

4.0 DREDGE AND DISPOSAL MONITORING

4.1 BATHYMETRY

- 4.1.1 Prior to the commencement of any works, the Contractor shall arrange to have a bathymetric survey carried out by an independent specialist survey company at both the dredge works area and dump site.
- 4.1.2 A post works survey of the same nature will be carried out to verify the dredging accuracy and confirm final bed levels.

4.2 ARCHAEOLOGY

- 4.2.1 It is unlikely archaeological remains will be found during the dredging activities as the harbours have been dredged to the proposed levels previously. However, in the event this occurs the Contractor will seek advice from the Employers Representative as soon as practicably possible.

4.3 WEATHER

- 4.3.1 Consideration should be given to the possibility of extreme tidal levels occurring including wave action. Weather forecasts should be monitored on a regular basis to ensure timely action can be undertaken to secure the site.
- 4.3.2 The sea conditions, wind speed and tidal conditions will be monitored and reviewed by the Contractor on a daily basis to determine if the operational weather limitations are exceeded.