Kilkeel Inner Harbour Dredging
Habitats Regulations Assessment

February 2026

Ref: JN 355.28 2026

[redacted]
Environmental Consultant

Contents

1.0 INTRODUCTION

Northern Ireland Fishery Harbour Authority (NIFHA) is proposing to undertake essential annual maintenance dredging at Kilkeel Inner Harbour County Down, Irish Grid Reference (IGR) J 31378 14189 (Figure 1.1). The works are required to ensure ongoing sufficient water depth at all tides for access to the Fishery Harbour and will span a three-year licence period (2026-2029). The objective of the works is to maintain sufficient water depth within the Inner Harbour area at low tide for boats to access the Harbour quay, slipway and pontoons. The works, which will involve the dredging of recently deposited sands and silts, will be undertaken directly by NIFHA and will be subject to a robust Dredge Management Plan.

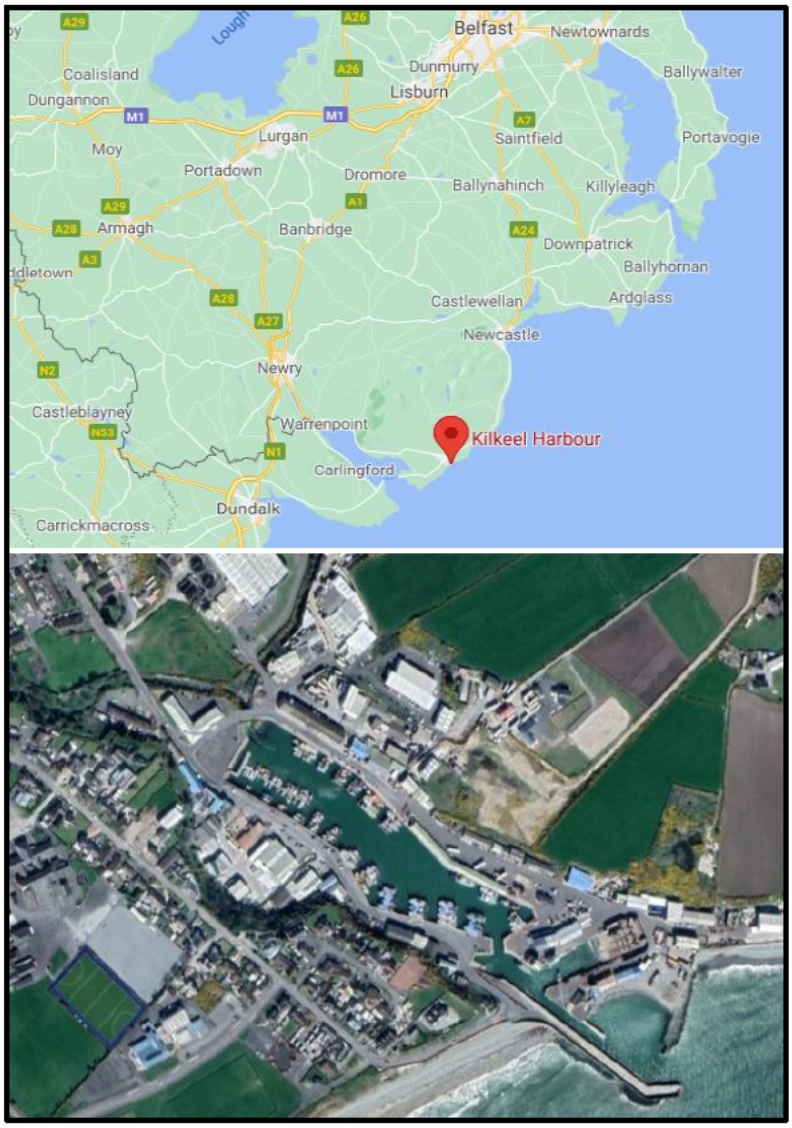

Figure 1.1: Site Location, Kilkeel Harbour

The Inner Harbour is to be maintained at a level of 1.06 m CD (3.24 m below ordinance datum). The depth of dredging required at any one time to maintain this channel level is approximately 0.5 m to 1.0 m of material. The proposed dredge area is approximately 43,800 m^2. Over the three-year licence period it is expected that a total of approximately 24,999 metric tonnes of dredge material will be removed and disposed of at sea. The Dredge Plan is shown in Figure 1.2.

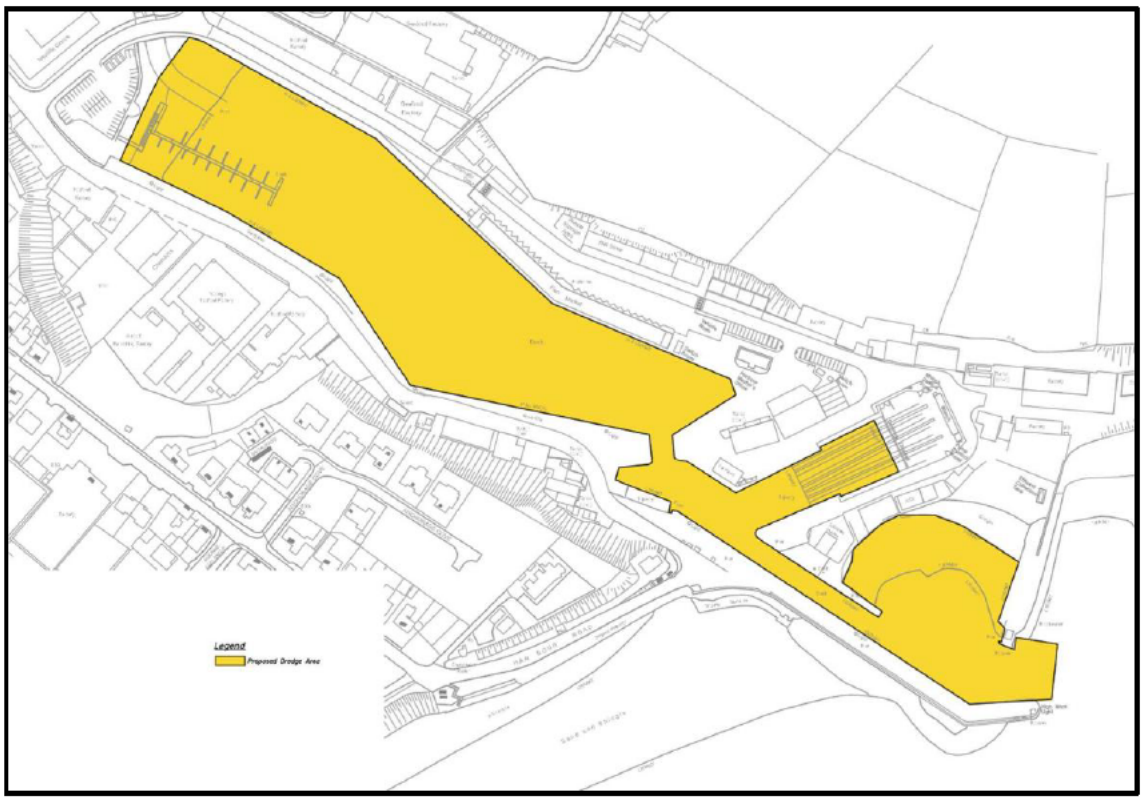

Figure 1.2: Dredge Plan Area

This report includes the HRA and acknowledges that NIFHA will implement a robust Dredge Management Plan considering the following DAERA 'Standing Advice' and Guidance:

- Development that may have an Effect on the Water Environment
  - Discharge to the Water Environment
  - Pollution Prevention Guidance
  - Marine Litter
- Development that may effect Natural Heritage Interests
  - Invasive Alien Species
  - Priority Habitats
  - Priority Species
- 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 Kilkeel Inner Harbour. In addition, a Draft Dredge Management Plan is presented in Section 6.0 Supporting Documentation.

MAINTENANCE DREDGING WORKS, KILKEEL INNER HARBOUR: METHODOLOGY

The methodology below is a preliminary outline and is subject to confirmation by NIFHA.

Only silts, sands & gravels are to be dredged and dredging operations shall be carried out to the extent indicated on the drawings. The NIFHA owned and operated dredger, MV Kilmourne, is to be used to complete the maintenance dredging works. This vessel has a hopper size of 100 m^3. A long reach excavator mounted to the deck of the vessel will undertake the dredging works. The excavator will carefully excavate the material to the required dredge levels taking care not to damage existing structures or create excessive suspended solids. During the maintenance dredging works the vessel will generally dredge and dispose of between 2 to 3 loads per day at the disposal site.

A dredge log will be maintained as 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. The proposed disposal site is within a 0.5 nautical mile radius of the coordinates -54º 01.5'N 05º 55.5'W, located approximately 5.5 km from Kilkeel Harbour (Figure 1.3.).

Figure 1.3: Dredge Disposal Site

The disposal operation will include:

- MV Kilmourne transporting 2-3 loads per day to the designated disposal site.
- Disposal will be by opening the bottom doors of the hopper to allow the dredged sediment to be deposited on the seabed, this will be done while the vessel is in motion to aid in the dispersion of sediments over the full dump site area.
- It should be noted that no overtopping of the hopper or decanting of water from the Hopper back into the tidal waters will be allowed. Any such event shall be dealt with as a spillage of dredge material.
- The route of MV Kilmourne 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 recorded by the vessel operators each day.
- A 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 dumping began
    - 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
    - Logged vessel track record data.

MV Kilmourne must operate active AIS vessel tracking during the operation. The vessel is to be serviced in accordance with good marine practice, and it is to be checked that if is fit for purpose. The vessel is 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 Kilkeel Harbour that the works are taking place.

2.0 HRA PROCESS

Where a proposal involves a project with potential to affect an area that contributed to the UK national site network sites such as a Special Area of Conservation (SAC) or Special Protection Area (SPA), the appointed competent authority is legally obliged to carry out a Habitats Regulations Assessment (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 sties' 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:

Kilkeel Inner Harbour Dredging.

NIFHA is proposing to undertake essential annual maintenance dredging at Kilkeel Inner Harbour County Down, Irish Grid Reference (IGR) J 31378 14189 (Figure 1.1, Section 1.0). The works are required to ensure ongoing sufficient water depth at all tides for access to the Fishery Harbour and will span a three- year licence period (2026-2029). The objective of the works is to maintain sufficient water depth within the Inner Harbour area at low tide for boats to access the Harbour quay, slipway and pontoons. The works, which will involve the dredging of recently deposited sands and silts, will be undertaken directly by NIFHA and will be subject to a robust Dredge Management Plan. The Inner Harbour is to be maintained at a level of 1.06 m CD (3.24 m below ordinance datum). The depth of dredging required at any one time to maintain this channel level is approximately 0.5 m to 1.0 m of material. The proposed dredge area is approximately 43,800 m^2. Over the three-year licence period it is expected that a total of approximately 24,999 metric tonnes of dredge material will be removed and disposed of at sea. The Dredge Plan is shown in Figure 2.1, Section 1.0. 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. The proposed disposal site is within a 0.5 nautical mile radius of the coordinates -54º 01.5'N 05º 55.5'W, located approximately 5.5 km from Kilkeel Harbour (Figure 1.3, Section 1.0).

The essential Maintenance Dredging will be undertaken directly by NIFHA, in accordance with relevant compliance conditions, who will be required to implement a robust a Dredge Management Plan (Draft included in Section 6.0) that takes into account the following DAERA 'Standing Advice' and Guidance: *Development that may have an Effect on the Water Environment (Discharge to the Water Environment; Pollution Prevention Guidance; Marine Litter); Development that may effect Natural Heritage Interests (Invasive Alien Species; Priority Habitats; Priority Species); Marine Non-Native Species; Marine Wildlife Disturbance.* Regarding potential water pollution risk, NIFHA will work to strict protocols in respect of chemicals, hazardous materials & fuelling arrangements and plant washing.

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 INNI website

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

Name and Location of National Site Network site:

Carlingford Lough SPA & Ramsar
Carlingford Marine pSPA
Murlough SAC
North Channel SAC
Pisces Reef Complex SAC
Strangford Lough SAC (Harbour Seal only)

Note: Terrestrial sites, East Mournes SAC and Rostrevor Wood SAC, were considered and immediately screened out due to the absence of any potential linkage.
Note: Marine site, Killough Bay SPA, was considered and immediately screened out due to the qualifying feature (light-bellied Brent Goose) and the significant distance (>30 km).

National Site Network site features (Figure 2a-2f):

Carlingford Lough SPA & Ramsar
Sandwich Tern
Common Tern
Light-bellied Brent Goose

Carlingford Marine pSPA
Sandwich Tern
Common Tern
Light-bellied Brent Goose

Murlough SAC
Atlantic Decalcified Fixed Dunes
Fixed Dune with Herbaceous Vegetation ('grey dunes')
Atlantic Salt Meadows
Dunes with Salix repens ssp. Argentea
Embryonic Shifting Dunes
Marsh Fritillary Butterfly
Mudflats & Sandflats not Covered by Seawater at Low Tide
Harbour Seal
Sandbanks which are Slightly Covered by Sea Water all the Time
Shifting Dunes along the Shoreline with Ammophilia arenaria ('white dunes')

North Channel SAC
Harbour Porpoise

Pisces Reef Complex SAC
Reefs

Strangford Lough SAC
Harbour Seal

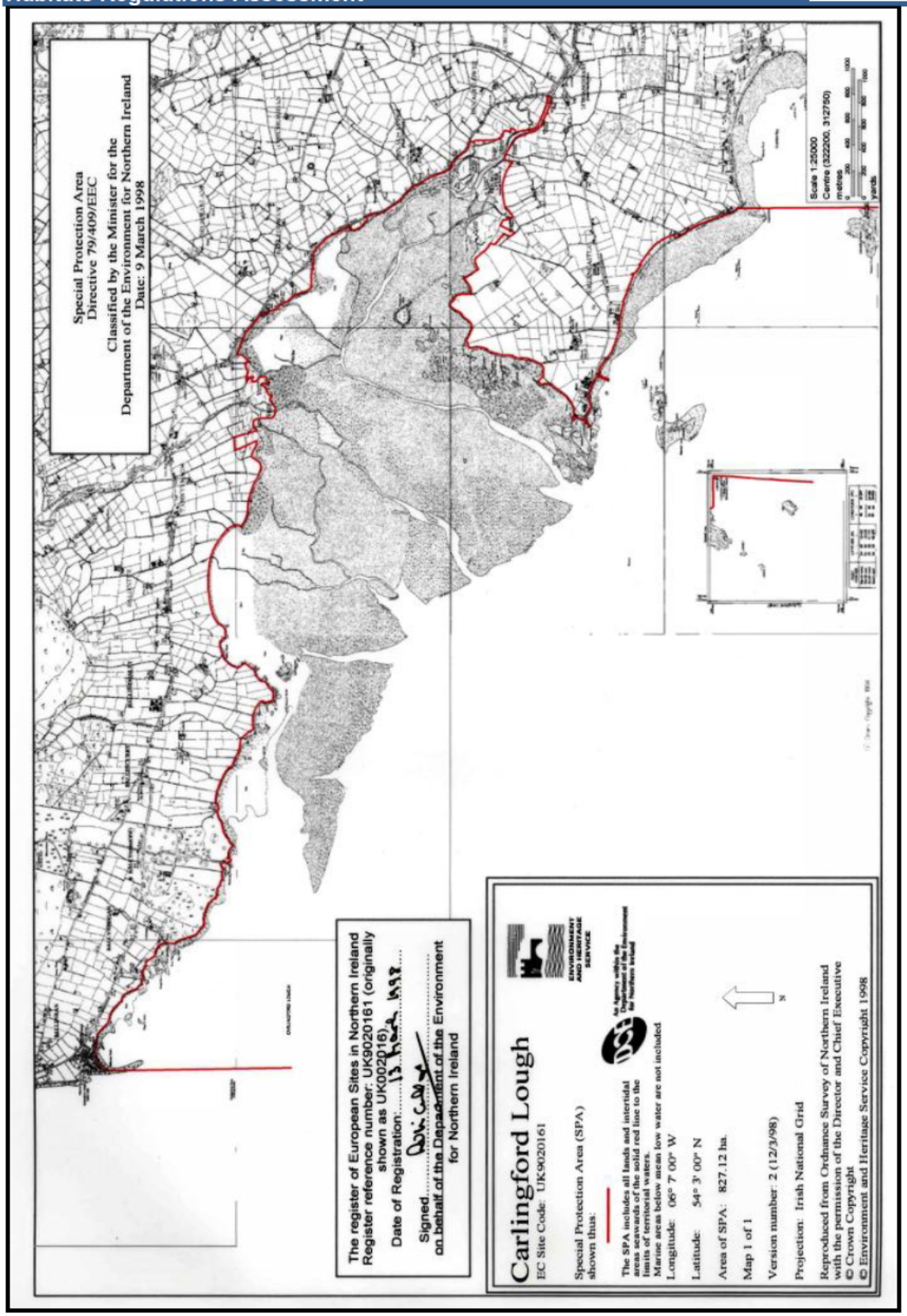

Figure 2a: Carlingford Lough SPA & Ramsar Boundary (DAERA)

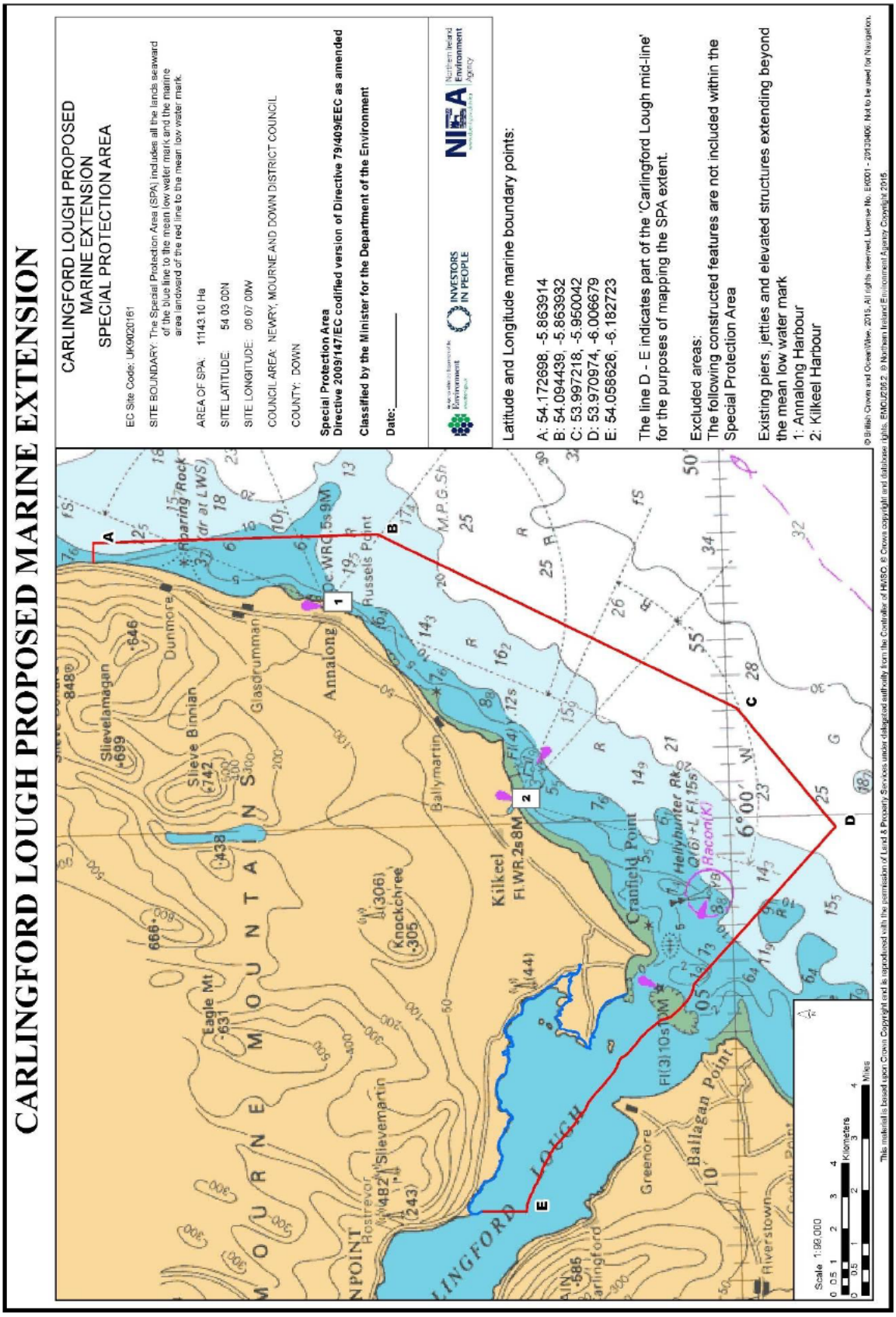

Figure 2b: Carlingford Marine pSPA Boundary (DAERA)

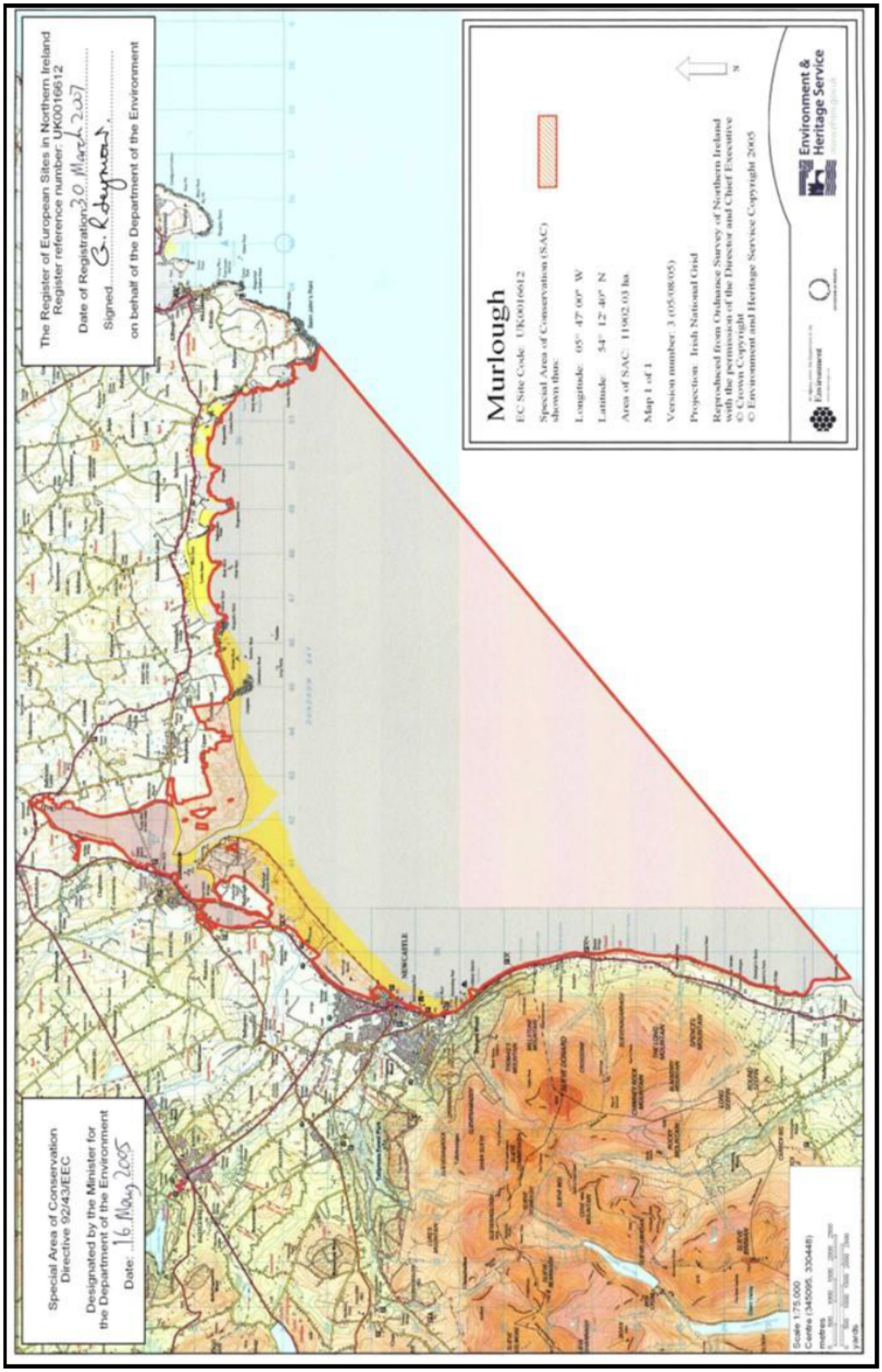

Figure 2c: Murlough SAC Boundary (DAERA)

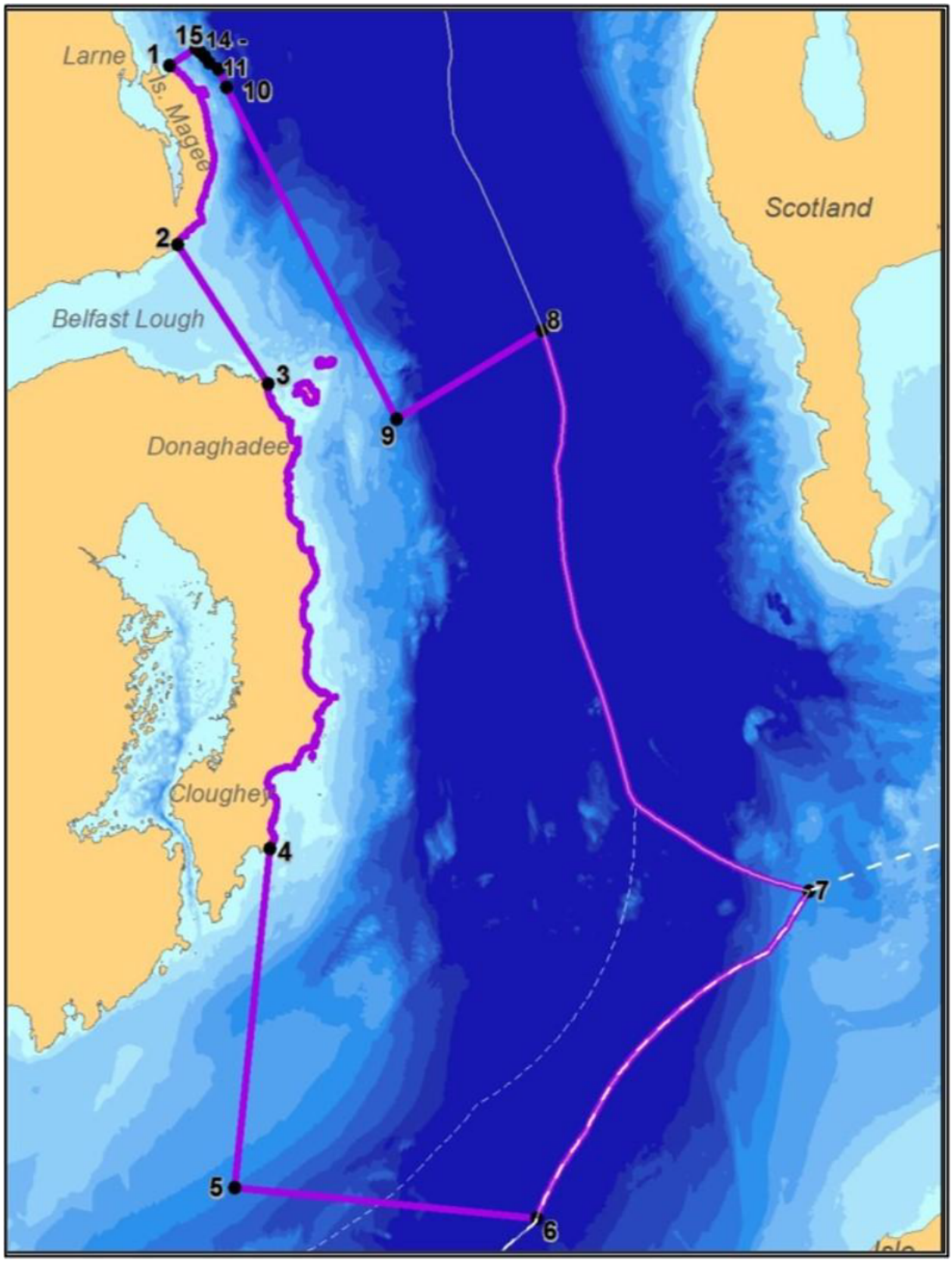

Figure 2d: North Channel SAC Boundary (DEFRA & JNCC)

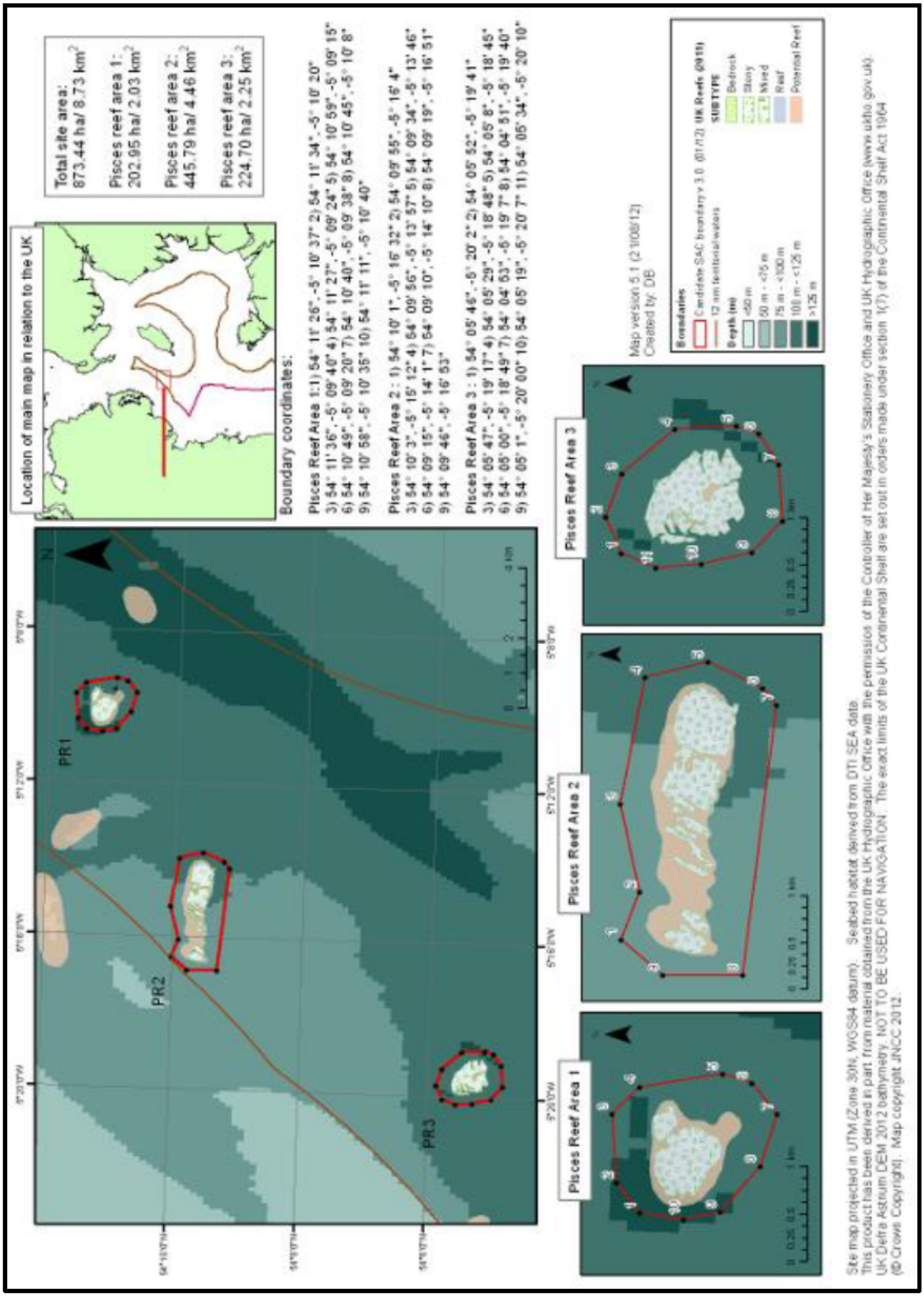

Figure e: Pisces Reef Complex SAC Locations (DEFRA)

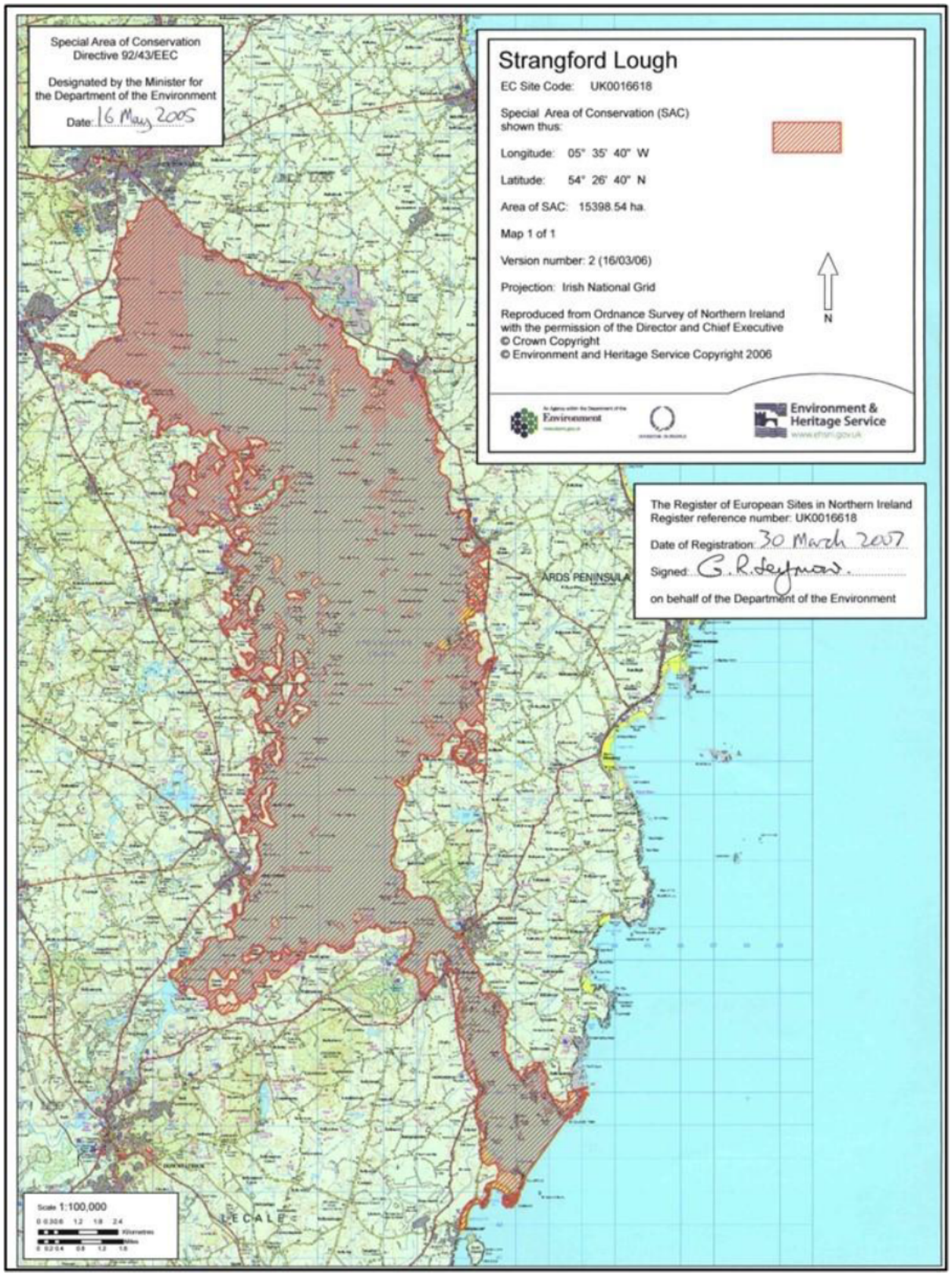

Figure 2f: Strangford SAC Boundary (DAERA)

Birds

Carlingford Lough SPA (~7.1 km to the south west) has been selected because of the important populations of breeding Sandwich and Common tern, together with the non-breeding population of Light-bellied brent geese. The SPA provides suitable habitat to meet their various needs including sites for breeding (for the Tern species), feeding and roosting. The tern species are migratory visitors, coming to Carlingford Lough to breed, usually using Green Island for nesting and feeding on a range of small fish in adjoining coastal waters. Sand-eel is a particularly important prey item. After breeding, Sandwich tern spend our winter around the coasts of the western Mediterranean as well as western and southern Africa, although increasingly some birds are present through the winter. Common tern also spend our winter in coastal waters around southern Africa. In contrast, the non-breeding Light-bellied brent geese enjoy a relatively mild winter in Northern Ireland compared to conditions they would be exposed to if they remained on their breeding grounds. Their breeding areas are in high latitudes of north-east Canada and they migrate via Greenland and Iceland to Ireland every year, making the return journey in the spring back to the breeding grounds. Ireland is a particularly important site for Light-bellied brent geese, with almost all of the worlds breeding population wintering on coastal sites here. Most of these visitors spend at least some time feeding on Lough Foyle and particularly Strangford Lough before dispersing to other sites including Carlingford Lough. The geese are highly dependent on inter-tidal swards of Eel-grass as their main food although they will also eat a range of other grasses and algae. The purpose of the SPA is to ensure that shoreline, intertidal and adjoining nearshore marine areas of the Carlingford Lough area are managed to meet all the needs of these species while they are with us and that the habitats they use are maintained year-round.

Carlingford Marine pSPA (adjacent) encompasses the marine section of the site which includes areas of open water within the Lough itself and in the area of the Lough mouth seawards to the limits of territorial waters as well as coastal waters northwards to the Bloody Bridge area on the Mournes Coast. The landward boundary for this area is the low water mark, medium tide. The marine area included in the renotified site has been shown to provide foraging habitat for both Sandwich and Common Tern originating from the breeding colony at this site.

Given the nature of the essential Maintenance Dredging and the fact that the site is at an operational fishery harbour, the disturbance impact on Carlingford Lough SPA and Carlingford Marine pSPA feature species is insignificant. However, there is potential for impact in respect of water pollution and release of non-native species, especially in relation to Carlingford Marine pSPA.

Marine Mammals

Harbour seal is a selection feature for Murlough SAC (~10.5 km north east) with the area considered to support a significant presence (106 individuals, DAERA 2017). Harbour seal is also a selection feature for Strangford Lough SAC (~41 km north east). The closest seal haul-out sites are outside the harbour at ~8 km south west (Haulbowline Rocks). Harbour porpoise is the selection feature for the North Channel SAC (~40 km north east). The SAC was identified as being within the top 10% of persistent high-density areas for Harbour porpoise in UK waters during the winter season. It is estimated that the site supports approximately 537 individuals for at least part of the year, as seasonal differences are likely to occur, and represents approximately 1.2% of the population within the UK part of the Celtic and Irish Seas MU.

The JNCC, NRW, DAERA and Natural England '*Guidance for assessing the significance of noise disturbance against Conservation Objectives of Harbour Porpoise SACs* recommends an Effective Deterrent Radius (EDR) of 26 km centred on the works location. Given that the works are located ~40 km from North Channel SAC, the EDR is exceeded and therefore no further calculation is required. Given the nature of the essential Maintenance Dredging, the working harbour location, and the absence of piling, the impact on harbour porpoise and other marine mammals is insignificant.

Marine Habitats

Dune, sandbank and salt meadow systems are selections features of Murlough SAC, in addition to the Marsh Fritillary butterfly. The Pisces Reef Complex SAC, located approximately midway between the Isle of Man and the Northern Irish coast (~40 km east), consists of an extensive mud plain through which three areas of Annex I bedrock and boulder-dominated stony reef protrude. The reefs themselves support a diverse community of brachiopods, ascidians, hydroids, sponges and fish.

Given the nature of the essential Maintenance Dredging, and the hydrological distance from the site, the impact on the above selection features for The Pisces Reef Complex SAC is insignificant. The following Marine invasive non-native species have been recorded in the vicinity of the site: *Bonnemaisonia hamifera* (Red seaweed). The closest Annex 1 marine habitats is reef (adjacent), with no others within 7 km. However, there is potential for impact at Murlough SAC in respect of water pollution and release of non-native species.

Coastal Processes & Climate Change

The essential Maintenance Dredging is required to ensure the safe and practical operation of the Fishery Harbour. The area is designated as 'high' in respect of the NI Coastal Erosion Risk Appraisal (DAERA Marine Map Viewer). However, there will be no land-take or impact on flood risk. Therefore, the proposed 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 (Figure 3)

In addition to SPA & SAC features, NIFHA is aware that part of Carlingford Lough is designated as a Marine Conservation Zone (MCZ). The MCZ has been designated as it supports the habitat *Philine aperta* (White lobe shell) and *Virgularia mirabilis* (Seapen) in soft stable infralittoral mud. This habitat is only present in Carlingford Lough.

Given the nature of the essential Maintenance Dredging, and the hydrological distance from the site ~18 km), the impact on Carlingford Lough MCZ selection features is insignificant.

Kilkeel Steps ASSI, approximately 0.5 km south west of Kilkeel Harbour is designated because of its earth science interest. The area provides access to important features formed toward the end of the last ice age. The soft cliffs are made up of sand, gravel and mud that were deposited as the main ice sheet was breaking up, around 20,000 years ago. These deposits cover the whole Mourne Plain, but at Kilkeel Steps particular features have been exposed.

Given the nature of the essential Maintenance Dredging, and the fact that the site is at operational fishery harbour, the impact on Kilkeel Steps ASSI is insignificant.

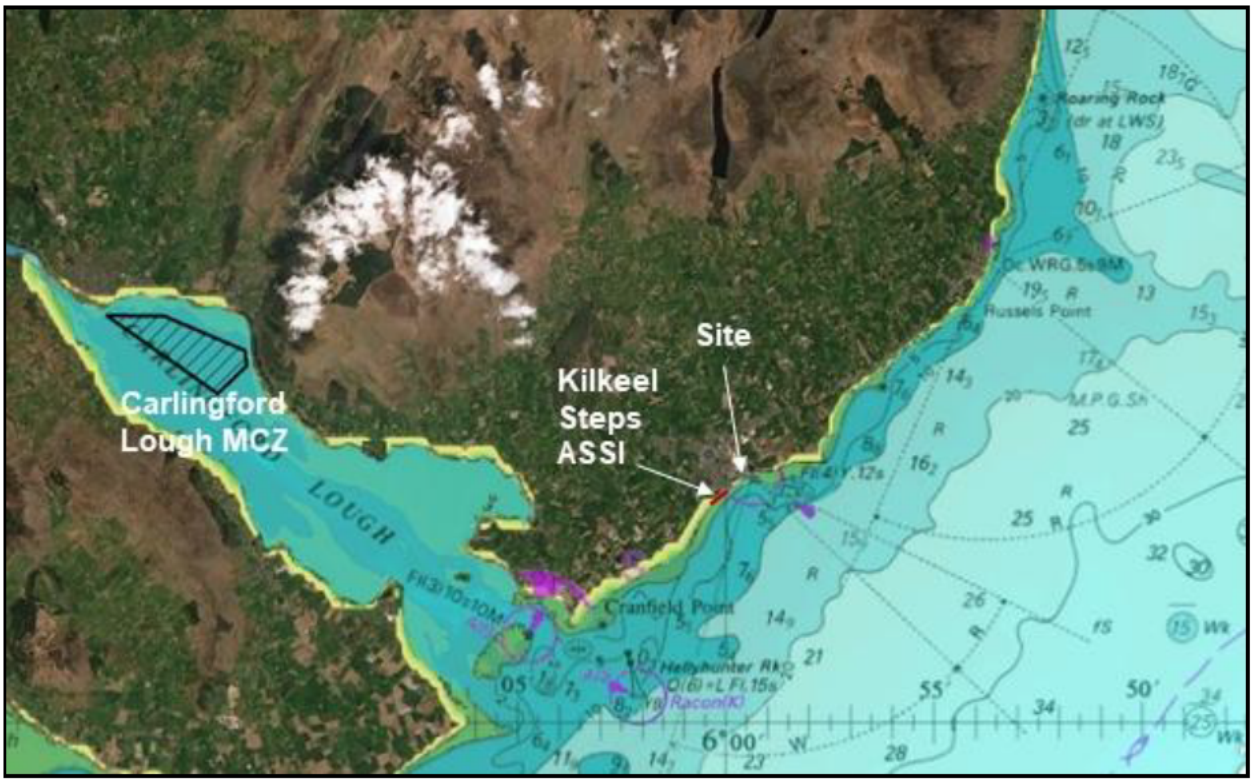

Figure 3: Carlingford Lough MCZ & Kilkeel Steps ASSI (DAERA Marine Map Viewer)

Description of the Project or Plan:

Size and scale

A methodology has been prepared for the proposed essential maintenance dredging works at Kilkeel Inner Harbour and is included in the draft Dredge Management Plan (Section 6.0) and summarised in Section 1.0. The works are required to ensure ongoing sufficient water depth at all tides for access to the Fishery Harbour and will span a three- year licence period (2026-2029). The objective of the works is to maintain sufficient water depth within the Inner Harbour area at low tide for boats to access the Harbour quay, slipway and pontoons. The works, which will involve the dredging of recently deposited sands and silts, will be undertaken directly by NIFHA and will be subject to a robust Dredge Management Plan. The Inner Harbour is to be maintained at a level of 1.06 m CD (3.24 m below ordinance datum). The depth of dredging required at any one time to maintain this channel level is approximately 0.5 m to 1.0 m of material. The proposed dredge area is approximately 43,800 m^2. Over the three-year licence period it is expected that a total of approximately 24,999 metric tonnes of dredge material will be removed and disposed of at sea. The Dredge Plan is shown in Figure 2.1, Section 1.0. 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. The proposed disposal site is within a 0.5 nautical mile radius of the coordinates -54º 01.5'N 05º 55.5'W, located approximately 5.5 km from Kilkeel Harbour (Figure 1.3, Section 1.0).

The draft Dredge Management Plan (included in Section 6.0) considers 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

The proposed dredge site area is approximately 43,800 m^2 and is adjacent to Carlingford Marine pSPA. There is no permanent land-take within any designated site.

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

The site is adjacent to Carlingford Marine pSPA and Carlingford Lough SPA is ~7.1 km to the south west. Other relevant sites are Murlough Bay SAC (~10.5 Km to the north east); North Channel SAC (~40 Km to the north east); Strangford Lough SAC (~41 km to the north east) and The Pisces Reef Complex SAC (~40 Km to the east).

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 works.

Excavation requirements

The works are required to ensure ongoing sufficient water depth at all tides for access to the Fishery Harbour and will span a three-year licence period (2026-2029). The objective of the works is to maintain sufficient water depth within the Inner Harbour area at low tide for boats to access the Harbour quay, slipway and pontoons. The works, which will involve the dredging of recently deposited sands and silts, will be undertaken directly by NIFHA and will be subject to a robust Dredge Management Plan. The Inner Harbour is to be maintained at a level of 1.06 m CD (3.24 m below ordinance datum). The depth of dredging required at any one time to maintain this channel level is approximately 0.5 m to 1.0 m of material. The proposed dredge area is approximately 43,800 m^2. Over the three-year licence period it is expected that a total of approximately 24,999 metric tonnes of dredge material will be removed and disposed of at sea. The Dredge Plan is shown in Figure 2.1, Section 1.0. 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. The proposed disposal site is within a 0.5 nautical mile radius of the coordinates -54º 01.5'N 05º 55.5'W, located approximately 5.5 km from Kilkeel Harbour (Figure 1.3, Section 1.0). In February 2026, 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 GES Ltd in December 2025. From 10 samples analysed, exceedances of EAL1 were recorded for various metals and total hydrocarbons, with one marginal exceedance for TBT. Averaged concentrations, which account for the dredged material as a single volume for disposal, exceeded EAL1 for chromium, nickel and THC only. Averaged concentrations did not exceed other recognised chemical assessment criteria. No individual samples or averaged concentrations were recorded above EAL2. The ERLs were developed by the USEPA to provide a screening level below which adverse effects in marine organisms are rare. The PELs are used in Canada to screen concentrations above these values whereby adverse effects frequently occur. Given that the averaged concentrations do not exceed the ERL or PEL, significant adverse effects on marine organisms are considered to be unlikely. Exceedances above EAL 1 were recorded for THC in both individual samples and in the dredge average. However, hydrocarbons are hydrophobic with low aqueous solubility and will naturally remain associated with organic sediment fractions, rather than become dissolved within the water column. On this basis, the risks associated with impact to water quality from organic chemical contaminants in sediment are considered to be low. 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. Although this is likely to cause localised increase in suspended solids at the disposal site, it is considered to 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 Kilkeel Inner Harbour dredging project.

Transportation requirements

The NIFHA owned and operated dredger, MV Kilmourne, is to be used to complete the maintenance dredging works. This vessel has a hopper size of 100 m^3. A long reach excavator mounted to the deck of the vessel will undertake the dredging works. The excavator will carefully excavate the material to the required dredge levels taking care not to damage existing structures or create excessive suspended solids. During the maintenance dredging works the vessel will generally dredge and dispose of between 2 to 3 loads per day at the disposal site. There will be no significant on-land transportation issues.

Duration of construction, operation, decommissioning etc.

The project works will take place as required during the three-year licence period (2026-2029).

Other: N/A

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

No The proposed work is essential Maintenance Dredging to ensure the safe and practical operation of the harbour.

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):**
Sandwich Tern	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality	**Potentially Significant: NIFHA required to adhere to Dredge Management Plan**
Common Tern	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality	**Potentially Significant: NIFHA required to adhere to Dredge Management Plan**
Light-bellied Brent Goose	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality	**Potentially Significant: NIFHA required to adhere to Dredge Management Plan**
Atlantic Decalcified Fixed Dunes	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality	**Potentially Significant: NIFHA required to adhere to Dredge Management Plan**
Fixed Dune with Herbaceous Vegetation ('grey dunes')	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality	**Potentially Significant: NIFHA required to adhere to Dredge Management Plan**
Atlantic Salt Meadows	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality	**Potentially Significant: NIFHA required to adhere to Dredge Management Plan**

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):**
Dunes with Salix repens ssp. Argentea	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality	**Potentially Significant: NIFHA required to adhere to Dredge Management Plan**
Embryonic Shifting Dunes	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality	**Potentially Significant: NIFHA required to adhere to Dredge Management Plan**
Marsh Fritillary Butterfly	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality	**Potentially Significant: NIFHA required to adhere to Dredge Management Plan**
Mudflats & Sandflats not Covered by Seawater at Low Tide	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality	**Potentially Significant: NIFHA required to adhere to Dredge Management Plan**
Harbour Seal	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality	**Potentially Significant: NIFHA required to adhere to Dredge Management Plan**
Sandbanks which are Slightly Covered by Sea Water all the Time	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: no piling involved
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality	**Potentially Significant: NIFHA required to adhere to Dredge Management Plan**

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):**
Shifting Dunes along the Shoreline with Ammophilia arenaria ('white dunes')	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality	**Potentially Significant: NIFHA required to adhere to Dredge Management Plan**
Harbour Porpoise	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality	Not Significant: feature not impacted (NIFHA required to adhere to Dredge Management Plan)
Reefs	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality	Not Significant: feature not impacted (NIFHA required to adhere to Dredge Management Plan)

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 due to hydrological linkage.	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 -**
Project / Plans in the vicinity of Kilkeel Harbour were reviewed including: ML2025047: Disposal at Sea of Dredged Material from Kilkeel Outer Harbour.	*Given the location, nature and scale of the works and taking cognisance of hydrological connectivity, no significant in-combination effects were identified.*
Is the potential scale or magnitude of any effect likely to be significant?	
Alone?	**No** ☐ **Yes** ☒
In-combination with other projects of plans?	**No** ☒ **Yes** ☐
List of Agencies Consulted: Provide contact name and telephone or email address.	DAERA Consultation & Data Provision
Summary of response to consultation received	Potential significant impacts identified
Conclusion: Is the proposal likely to have a significant effect on an NSN site?	**No** ☐ **Yes** ☒

Data collected to carry out the assessment

Who carried out the assessment?	[redacted]
Sources of data	'*Kilkeel Inner Harbour Best Practicable Environmental Option (BPEO) Report*', Envirocentre, February 2026 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 Flax House 83-91 Adelaide Street Belfast BT2 8FE
Summary of response.	Potential impact from dredging activities in respect of pollution risk and spread of invasive species due to proximity to open water taking cognisance of hydrological linkage to National Site Network sites (Carlingford Lough SPA & Ramsar, Carlingford Marine pSPA and Murlough SAC).

4.0 STAGE 2: APPROPRIATE ASSESSMENT

Assessment of Effects of the Project or Plan on the Integrity of the Site	
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)	Dredging activities present potential risk of pollution and spread of invasive species.
Set out the Conservation Objectives of the site	From *THE CARLINGFORD LOUGH SPA UK9020160 CONSERVATION OBJECTIVES, DAERA 1st April 2015:* *To maintain or enhance the population of the qualifying species* *Fledging success sufficient to maintain or enhance population* *To maintain or enhance the range of habitats utilised by the qualifying species* *To ensure that the integrity of the site is maintained* *To ensure there is no significant disturbance of the species and* *To ensure that the following are maintained in the long term:* 1. *Population of the species as a viable component of the site* 2. *Distribution of the species within site* 3. *Distribution and extent of habitats supporting the species* 4. *Structure, function and supporting processes of habitats supporting the species* From *THE MURLOUGH SAC UK0016612 CONSERVATION OBJECTIVES, DAERA 24th March 2017:* *For Atlantic Decalcified Fixed Dunes:* *Maintain and if feasible, expand the extent of existing decalcified fixed dune, H 11 and H10. Increase permitted into areas of rank dune grassland, NOT into spp-rich short turf (Grey Dune SD8).* *Maintain and enhance structural and species diversity within the H11 and H10 communities including the presence of notable species.* *Seek nature conservation management over suitable areas immediately outside the SAC where there is possibility of restoring decalcified fixed dune.* *Maintain the diversity and quality of habitats associated with the decalcified fixed dunes, e.g. neutral grasslands, scrub, especially where these exhibit natural transition to decalcified fixed dune vegetation.*

	For Atlantic Salt Meadows: *Maintain or extend, as appropriate, the area of saltmarsh, subject to natural processes* *Maintain or enhance, as appropriate, the composition of the saltmarsh communities* *Maintain transitions between saltmarsh communities and to other adjoining habitats* *Permit the continued operation of formative and controlling natural processes acting on the saltmarsh communities* *For Dunes with Salix repens ssp:* *Maintain and expand the extent of existing Fixed dunes with Salix repens. Increase permitted into areas of rank dune grassland, NOT into spp-rich short turf (Grey Dune SD8).* *Maintain and enhance species diversity within the SD16 community including the presence of notable species.* *Seek nature conservation management over suitable areas immediately outside the SAC where there is possibility of restoring fixed dune with Salix repens* *For Embryonic Shifting Dunes:* *Maintain or enhance the extent of embryonic shifting dunes subject to natural processes* *Allow the natural processes which determine the development and extent of embryonic shifting dunes to operate appropriately* *For Fixed Dunes with Herbaceous Vegetation (grey dunes):* *Maintain and expand the extent of existing species-rich fixed dune, SD8.* *Maintain and enhance species diversity within the SD8 community including the presence of notable species.* *Seek nature conservation management over suitable areas immediately outside the SAC where there is possibility of restoring fixed dune* *Maintain the diversity and quality of habitats associated with the fixed dunes, e.g. neutral grasslands, scrub, especially where these exhibit natural transitions to fixed dune vegetation.* *For Mudflats and Sandflats not Covered by Seawater at Low Tide:* *Maintain the extent of mudflats and sandflats not covered by sea water at low tide* *Allow the natural processes which determine the development, structure and extent of mudflats and sandflats not covered by sea water at low tide, to operate appropriately* *Maintain and enhance, as appropriate, the species diversity within this habitat.* *For Sandbanks which are Slightly Covered by Sea Water all the Time:* *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* *Maintain and enhance, as appropriate, the species diversity within this habitat.* *Maintain the extent and volume of sandbanks which are slightly covered by sea water all the time, subject to natural processes.*

	For Shifting Dunes Along the Shoreline with Ammophila arenaria (white dunes): *Maintain and enhance the extent of white dunes subject to natural processes* *Allow the natural processes which determine the development and extent of white dunes to operate appropriately* *Maintain and enhance, as appropriate, the species diversity within this community* *For Marsh Fritillary:* *Maintain (and if feasible enhance) population numbers and distribution.* *Maintain (and if feasible enhance) the extent and quality of suitable Marsh Fritillary breeding habitat, particularly suitable rosettes of the larval food plant Succisa pratensis* *For Harbour Seal:* *Maintain (and if feasible enhance) population numbers and distribution of Harbour Seal.* *Maintain and enhance, as appropriate, physical features used by Harbour Seals within the site*

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.	Potential impact from dredging activities in respect of pollution risk and spread of invasive species due to proximity to open water taking cognisance of hydrological linkage to Carlingford Lough SPA & Ramsar, Carlingford Marine pSPA and Murlough SAC.
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.	1. Full adherence to Marine Licence Conditions 2. Full adherence to NIFHA Method Statement & Dredge Management Plan, ensuring the following DAERA 'Standing Advice' and Guidance is fully considered: • *Development that may have an Effect on the Water Environment (Discharge to the Water Environment; Pollution Prevention Guidance; Marine Litter)* • *Development that may effect Natural Heritage Interests (Invasive Alien Species; Priority Habitats; Priority Species)* • *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 Conditions	Marine Licence will impose appropriate conditions to protect NSN site designation features during dredging phase.	Conditions will minimise potential for adverse pollution impacts.	NIFHA 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.	NIFHA 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.	NIFHA 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 protected site designation features during dredging and disposal phase.	Conditions will minimise potential for adverse pollution impacts.	NIFHA 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 NIFHA.	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.	NIFHA 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 NIFHA.	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.	NIFHA will be audited by Design Engineers. Issues identified will be subject to immediate corrective action.

5.0 CONCLUSIONS

Following a Stage 1 Test of Likely Significance (Section 3.0) this found that the essential Maintenance Dredging at Kilkeel Inner Harbour would result in:

> *'Potential impact from dredging activities in respect of pollution risk and spread of invasive species due to proximity to open water taking cognisance of hydrological linkage to Carlingford Lough SPA & Ramsar, Carlingford Marine pSPA and Murlough SAC.'*

Consequently, a Stage 2 Appropriate Assessment (AA) was conducted (Section 4.0). This AA concentrated on Carlingford Lough SPA & Ramsar, Carlingford Marine pSPA and Murlough 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, NIFHA will work to the requirements of the Dredge Management Plan that takes into account the following DAERA 'Standing Advice' and Guidance: *Development that may have an Effect on the Water Environment (Discharge to the Water Environment; Pollution Prevention Guidance; Marine Litter); Development that may effect Natural Heritage Interests (Invasive Alien Species; Priority Habitats; Priority Species); Marine Non-Native Species; Marine Wildlife Disturbance.* In addition, NIFHA will work to strict protocols in respect of chemicals, hazardous materials & fuelling arrangements and plant washing.

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 Carlingford Lough SPA & Ramsar, Carlingford Marine pSPA and Murlough SAC or any other designated site.

6.0 SUPPORTING DOCUMENTATION

Draft Dredge Management Plan

DRAFT DREDGE MANAGEMENT PLAN
KILKEEL INNER HARBOUR

Northern Ireland Fishery Harbour Authority

19 February 2026

Doran CONSULTING
DELIVERING ENGINEERING EXCELLENCE

Doran CONSULTING
DELIVERING ENGINEERING EXCELLENCE

CONSULTING ENGINEERS

Civil Engineering
Structural Engineering
Traffic & Transportation
Project Management
CDM Services

DRAFT DREDGE MANAGEMENT PLAN

KILKEEL INNER HARBOUR

[redacted]

19 February 2026

[redacted]

Job No	Prepared by	Checked by	Approved by	Status	Issued to	Date
[redacted]					NIFHA	19/02/2026

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CONTENTS

1.0 INTRODUCTION

1.1 PROJECT OVERVIEW

1.1.1 Northern Ireland Fishery Harbour Authority are planning to carry out yearly maintenance dredging works in the Inner Harbour area at Kilkeel Harbour. The next licence period will span between 2026 to 2029.

1.1.2 Kilkeel Harbour is located on the northeast Coast of Ireland, three and a half miles northeast of the entrance to Carlingford Lough, it is situated on the Irish Sea coast at the foot of the Mourne Mountains. The Harbour is the main commercial fishing port on the County Down coast.

The objective of the works is to maintain sufficient water depth within the inner harbour area at low tide for boats to access the Harbours' quay, slipway and pontoons. The works will involve the dredging of recently deposited sands and silts.

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 NIFHA upon Commencement of the new licence period .

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 Kilkeel Harbour.

1.3 LEGISLATIVE REQUIREMENTS

1.3.1 The Maintenance Dredging Works will be undertaken by directly by NIHFA, 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, NIFHA 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

2.2 The inner harbour is to be maintained at a level of 1.06m CD (3.24m below ordinance datum). The depth of dredging required at any one time to maintain this channel level is approximately 0.5m to 1.0m of material. The Dredge Plan is shown in Figure 2.1

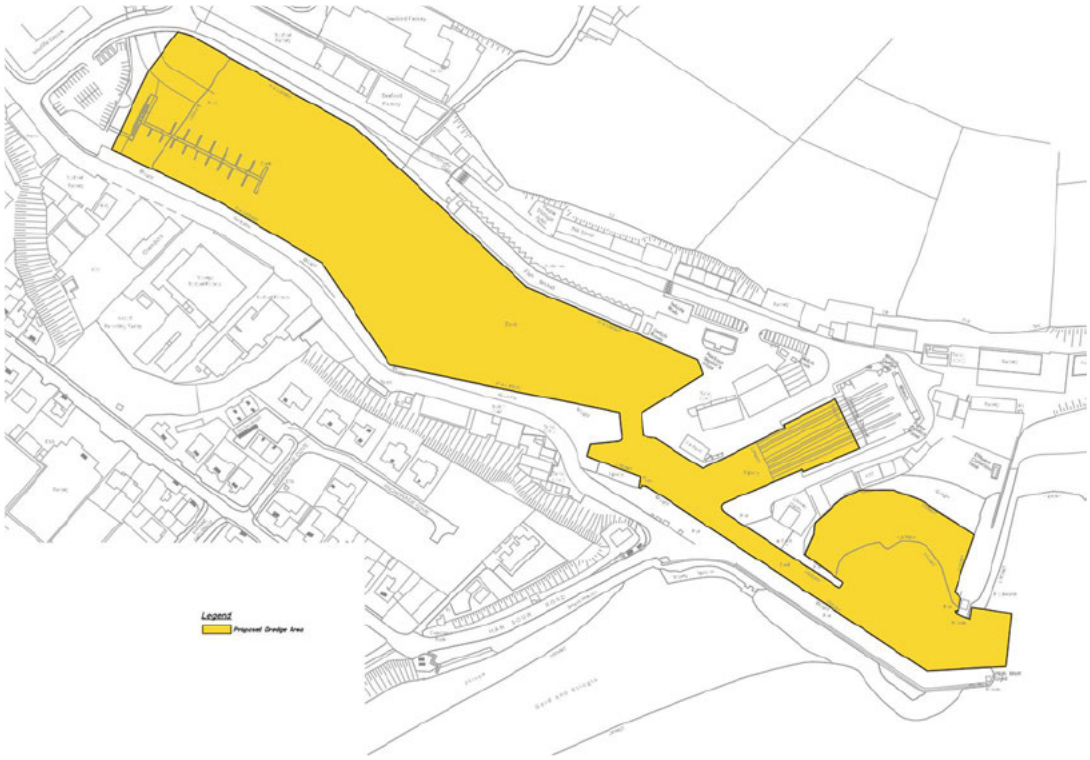

Figure 2.1 – Dredge Extents

2.2.1 The proposed Dredge area is approximately 43,800m^2 in plan area. Over the 3 year licence period it is expected that a total of circa 24,999 metric tonnes of dredge material will be removed and disposed of at sea.

2.3 DREDGE METHODOLOGY

2.3.1 The methodology below is a preliminary outline and is subject to confirmation by NIFHA.

- Only silts, sands & gravels are to be dredged.
- Dredging operations shall be carried out to the extent indicated on the drawings.
- The NIFHA owned and operated dredger, the Kilmourne, is to be used to complete the maintenance dredging works. This vessel has a hopper size of 100m^3.
  A long reach excavator mounted to the deck of the vessel will undertake the dredging works.
- The excavator will carefully excavate the material to the required dredge levels taking care not to damage existing structures or create excessive suspended solids.
- During the maintenance dredging works the vessel will generally dredge and dispose of between 2 to 3 loads a day at the disposal site.

2.3.2 Dredge plant will maintain a daily 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.

2.4 DREDGE DISPOSAL

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

2.4.2 All material to be removed will need to be deemed suitable for disposal at sea under the 'Disposal at Sea' license conditions.

2.4.3 The proposed disposal site is within a 0.5 nautical mile radius of the coordinated -54º 01.5'N 05º 55.5'W located approximately 5.5km from Kilkeel harbour as shown in Figure 2.2.

Figure 2.2

2.4.4 The disposal operation will include:

- The Kilmourne is targeting to take 2-3 loads a day to the designated disposal site. Disposal will be by opening the bottom doors of the hopper to allow the dredged sediment to be deposited on the seabed, this will be done while the vessel is in motion to aid in the dispersion of sediments over the full disposal site area.

- It should be noted that no overtopping of the hopper or decanting of water from the Hopper 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 recorded by the vessel operators each day.

2.4.5 An 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 disposal began;
- The date, time and position at which the loading began;
- The date, time and position at which disposal began;
- The quantity, states in metric tonnes, of the substance or material disposed;
- The date, time and position at which the vessel completed the voyage for the purpose of disposal; and
- Logged vessel track record data.

2.5 PLANT AND VESSELS

2.5.1 The NIFHA dredge Kilmourne is to be used for the dredging, during so there must be operational and active AIS vessel tracking during the operation.

2.5.2 The vessel is to be serviced in accordance with good marine practice, and it is to be checked that if is fit for purpose.

2.5.3 The vessel is 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.

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

3.0 ENVIORMENTAL 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 NIFHA 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-fueling; 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

- NIFHA will 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 withing 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

- 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 NIFHA 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 MANAGEMENT

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, NIFHA shall arrange to have a bathymetric survey carried out by an independent specialist survey company at the dredge works area. A benthic survey will be undertaken at the proposed disposal site.

4.1.2 Post works survey of the same nature will be carried out at the dredge works area and the disposal site.

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 NIFHA will seek advice from an Archaeological Consultancy 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 NIFHA on a daily basis to determine if the operational weather limitations are exceeded.