

Natura Impact Assessment Screening

for

Improvement works on existing slipway at

Crovraghan Quay (existing), Crovraghan, Killadysert

As required by

Article 6(3) of the Habitats Directive (92/43/EEC)

1. BACKGROUND TO APPROPRIATE ASSESSMENT

1.1 Regulatory Context

The Appropriate Assessment (AA) process arises out of the EU Habitats Directive and Birds Directive which were transposed into Irish legislation by the Planning and Development Act, 2000 as amended, by the Planning and Development (Amendment) Act, 2010 and the Wildlife Acts of 1976 and 2000 as well as the European Communities (Natural Habitats) Regulations, 1997, 1998 and 2005 and the European Communities (Birds and Natural Habitats) Regulations 2011.

The EU Habitats Directive requires an 'Appropriate Assessment' (AA) to be carried out where a plan or project is likely to have a significant impact on a Natura 2000 site. Natura 2000 sites include Special Areas of Conservation (SAC) and Special Protection Areas (SPA). Appropriate Assessment is referred to in Articles 6(3) and 6(4) of the EU Habitats Directive.

6(3) Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.

6(4) If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted. Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest (IROPI)

1.2. Appropriate Assessment Process

The European Commission's methodological guidance (EC, 2002) promotes a four-stage process to complete the AA, and outlines the issues and tests at each stage. An important aspect of the process is that the outcome at each successive stage determines whether a further stage in the process is required.

The four stages are summarised sequentially as



¹ NIS; Natura Impact Statement

1.2.1 Stage 1 Screening

Screening is the process that addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3):

- o Whether a plan or project is directly connected to or necessary for the management of the site,
- o Whether a plan or project, alone or in combination with other plans and projects, is likely to have significant effects on a Natura 2000 site in view of its conservation objectives.

If the effects are deemed to be significant, potentially significant, or uncertain, or if the screening process becomes overly complicated, then the process must proceed to Stage 2 Appropriate Assessment (AA), with preparation of a Natura Impact Statement (NIS). Screening is undertaken on the potential impact of the project, including the construction works. The greatest level of evidence and justification is needed in circumstances where the process ends at the screening stage on grounds of no potential impact on elements of conservation interest in the Natura site

1.2.2 Stage 2. Appropriate Assessment

This stage considers whether the plan or project, alone or in combination with other projects or plans, will have an adverse effect on the integrity of a Natura 2000 site, including any mitigation measures necessary to avoid, reduce or offset negative effects. At Stage 2, project proposers must prepare a **Natura Impact Statement (NIS)**. This is a professional scientific examination of the plan or project and the relevant Natura 2000 sites, to identify and characterise any possible implications for the site in view of the site's conservation objectives, taking account of in combination effects, and should provide information to enable the competent authority to carry out a full assessment of the project impact on the Natura sites. If the assessment is negative, i.e. adverse effects on the integrity of a site/s cannot be excluded, then the process must proceed to Stage 4, or the plan or project should be abandoned. The appropriate assessment (AA) is carried out by the competent authority, and is supported by the NIS.

1.2.3. Stage 3. Alternative Solutions

If Stage 2 demonstrates that the project would have adverse effects on the integrity of a Natura 2000 site, Stage 3 must examine any alternative solutions or options that could enable the plan or project to proceed without adverse effects on the integrity of the Natura 2000 site. The process must return to Stage 2 as alternatives will require appropriate assessment in order to proceed. Demonstrating that all reasonable alternatives have been considered and assessed, and that the least damaging option has been selected, (where it is not possible to exclude adverse impacts on the integrity of a site) it is necessary to progress to Stage 4.

1.2.4. Stage 4. Imperative Reasons of Overriding Public Interest (IROPI)/Derogation

Stage 4 is the main derogation process of Article 6(4) which examines whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project that will have adverse effects on the integrity of a Natura 2000 site to proceed in cases where it has been established that no less damaging alternative solution exists. The extra protection measures for Annex I priority habitats come into effect when making the IROPI case. Compensatory measures must be proposed and assessed. The Commission must be informed of the compensatory measures. Compensatory measures must be practical, implementable, likely to succeed, proportionate and enforceable, and they must be approved by the relevant Minister.

2. METHODOLOGY

The methodology used to complete the Appropriate Assessment Screening Report follows best practice guidance, including: -

- European Commission (2000) Managing Natura 2000 sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC.
- European Commission (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC ²
- Department of the Environmental Heritage and Local Government (2009). Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities.³

In complying with the obligations under Article 6(3) and following the above Guidelines, this screening for AA is the first step in an iterative process to assess the significance of the impacts identified, (associated with the proposed development) on Natura site/s integrity⁴ and conservation interests of Natura 2000 sites. Where it can be objectively concluded that there will be no significant effects on the Natura 2000 sites, there is no further requirement for a Natura Impact Statement. The screening for AA is a stepwise process, which includes the following:

- Description of the Project, including proposed works and the site of the development
- Identification of Natura 2000 sites potentially affected
- Identification and description of individual/cumulative impacts likely to result from the proposed development
- Assessment of the significance of the impacts identified above on site integrity.
- Exclusion of sites where it can be objectively concluded that there will be no significant effects

Following the DEHLG guidance (2010) where effects are evaluated as being potentially significant or uncertain under a Stage 1 Appropriate Assessment Screening Report one must proceed to Stage 2 Appropriate Assessment, preparation of a Natura Impact Statement.

Prior to the commencement of field surveys, a desktop review of the relevant technical literature and databases was undertaken for the site in order to identify the presence of any rare or protected flora or fauna and designated conservation areas i.e. Natura 2000 sites [Special Areas of Conservation (SAC's), Special Protection Area's (SPA's)], Natural Heritage Area's (NHA's), proposed Natural Heritage Areas (pNHA's) or other non-designated sites of ecological/botanical interest e.g. supporting Annex I listed habitats, Annex II or Annex IV listed

² <http://ec.europa.eu/environment/nature/legislation/habitatsdirective/>

³ <http://www.npws.ie/planning/appropriateassessment/>

⁴ Integrity is defined as: 'the coherence of the site's ecological structure and function, across its whole area, or the habitats, complex of habitats and/or populations of species for which the site is or will be classified'. Therefore the integrity of a site is principally related to the structure and function of the site with regard to its Annex I habitats and Annex II species listed as the qualifying interests. The conservation status of these qualifying interests comprises the primary conservation objectives for all designated Natura 2000 sites.

species under the EU Habitats Directive and Annex I listed species under the EU Birds Directive within or in the vicinity of the site.

This screening assessment is based on a combination of the desk study and site surveys undertaken between October 2017 and March 2018. As part of the desk study the locations and boundaries of all Natura 2000 sites within 1km, 3km, 5km and 15km of the proposed development site were identified and reviewed, using the National Parks and Wildlife Service (NPWS) data base. Where relevant, the NPWS Site Synopsis, Conservation Objectives and Natura 2000 Standard Data Form for any designated areas were also reviewed, together with data logged on the National Biodiversity Data Centre (www.biodiversityireland.ie).

The Annex listed habitats and species described in the conservation objectives of the Natura 2000 sites as features of Qualifying Interest (for SAC's) or of Special Conservation Interest (for SPA's) were the main focus of the screening assessment for likely significant effects.

The field walkover surveys were undertaken between October 2017 and March 2018, to determine ecological risks associated with the proposed development.

3. PROPOSED DEVELOPMENT

3.1 Project description and location

Killadysert Village Renewal Community Group (KVRCG) and Bunratty Search and Rescue Group propose the improvement works at an existing slipway at Crovraghan Quay, located 4 miles north of Killadysert, approached from the main R473, via a local road LT 63501. The quay provides a central and easy access point for most of the Fergus estuary islands, including Coney, Canon, Horse, Shore, Inishtubbridd and Lowe. Adjacent to the existing quay, the shore area already provides a parking area for vehicles. The quay is currently used by farmers on a weekly basis for small boats and cattle transportation crafts, moving livestock to and from the islands. However, the quay experiences large tidal fluctuations (7.38m) which restricts this estuarine access to the islands on a daily basis. Farmers have to carefully plan trips based on tide times. The quay is also used for emergency search and rescue missions, so improved access at all water levels is vital for these services.

To address the limited use issue, the proposed development seeks to provide an improved slipway of suitable width and length to permit launch and retrieval of boats at all tidal conditions. This will be achieved by construction of an improved slipway 6 metres wide and 32 metres long. The improvement works and construction will be undertaken over a two month period.

There is an existing parking facility at the quayside. The lands around the quay are grasslands in agricultural use.

This activity will require a planning permission from the Planning Authority, and (subsequently) a Foreshore Licence, in accordance with Foreshore Licence under the Foreshore Act 1933 (as amended), before works commence on this project. The site location and proposed development are shown in Drawing P/18/12/SL and the Rural place map as shown in Appendix A to this report.

This screening of the proposed development's potential impact on the Natura 2000 site network requires a description of the development, in terms as set out in Table 1

Table 1; Range of descriptors to define the proposed development

Descriptor	Proposed Development
Size and scale	Importation of 300 m ³ concrete to construct improved slipway at existing quay, over a two month period
Land take	Existing footprint of quay and existing site access, to provide a finished slipway 6m x 32m
Distance from Natura 2000 site/s, or key features of the site	At the water's edge, with works taking place within a Natura site
Resource requirements(water abstraction, construction materials)	Temporary shuttering of the site to enable concrete pouring. No water abstraction
Emissions (disposal to land, water, air)	Potential for noise, silt, liquid concrete and concrete washing emissions
Excavation requirements	None
Transportation requirements	20-30 loads ready mix over a 2 month period. Movement of construction workers to and from the site during construction (3 cars per working day over 2 months)
Duration	2 months, including haulage, construction and completion of works

3.2 Description of the Temporary Works

Initially the existing slipway area will be cordoned off and a site compound will be set up adjacent to the area. At low water level, the existing slipway area will be cleared of existing vegetation, debris and stone. Once the area is cleared a trench will be constructed and the proposed slipway area will be closed off by shuttering to prevent water ingress. Several lays of precast concrete, stone and steel gabions will be laid in the shuttered template of the slipway, and allowed to set

During construction of the slipway, the slipway area will be shuttered to prevent inflow of waters and discharge of suspended solids or liquid concrete. A typical shuttered structure for slipway construction is shown in Figure 1.

All concrete poured on site will be in this enclosed area, with no washings to be discharged to waters at the site. A full Construction and Environmental Management Plan (CEMP) will be submitted and agreed with Clare County Council prior to commencement of works on site.



Figure 1; Typical shuttered area for slipway construction

It is important to note the works will be undertaken in full compliance with any conditions imposed under a Planning Permission, or Foreshore licence, which will include consultation with the relevant external bodies (e.g. Development Applications Unit, Inland Fisheries Ireland, and Department of Marine). Every measure imposed will focus on protection of the conservation objectives of the Shannon and Fergus Estuaries Special Protection Area (SPA) and Lower Shannon Estuary Special Area of Conservation (SAC). A work plan will be prepared by the applicants in consultation with Clare County Council. Following a formal tender procurement process, an experienced main contractor will be appointed and will review the plan and revise where necessary to ensure that it complies with any requirements of the various permissions and licences. The appointed contractor will furnish more detailed information on construction methodologies once appointed. This will include method statements for all work activities, risk assessments, etc. These method statements will be incorporated into a final CEMP and submitted to Clare County Council prior to construction.

It is anticipated that the construction works will take approximately 2 months from starting on site, subject to all appropriate controls being implemented. These construction works will be arranged so that

- Excavated material will be stored in dedicated deposition areas, with suitable containment for run off to entrap suspended solids. No spoil deposition will be allowed on intertidal areas. The area for containment of spoil will be located away from the foreshore high water mark and intertidal zone insofar as possible. A suitable berm will be established around the deposition area to ensure containment of run off, and direct run off to suitable solids interception facilities (e.g. settlement lagoon, silt buster)
- Any ground area used to store spoil will be reinstated to original condition following spoil removal
- A site compound will be established adjacent to the slipway site construction area. Access to this compound will be limited to construction site personnel to ensure the safe storage of any potentially polluting materials or substances (e.g. concrete, oils, and waste material). The compound will be above the high water mark, and will have no discharges to waters from this area
- Direct pumping of soiled waters from flooded excavation holes/pits will not be permitted to the foreshore or estuarine waters. Any pump out required will be directed to suitable interceptors (settling lagoon/silt trap) for management of all run off from the construction area. Suspended solids will be allowed to settle prior to discharge to the estuarine waters.
- Careful planning of excavations will be required in the intertidal zone to limit erosion of intertidal substrates, which is likely to require protection of excavated areas from incoming/receding tides
- Weather forecasts will be monitored during the construction phase so that construction involving excavations can be avoided prior to and during periods of heavy rainfall. The 24 hour advance meteorological forecasting service from Met Éireann will be used

During the construction phase strict adherence to the Construction and Environmental Management Plan (CEMP) will limit impacts to the footprint of the proposed development and minimise impacts on the intertidal habitats.

A welfare facility will be provided (small portacabin) which will have a small shelter area and a toilet facility for workers at the site. All discharges from the portacabin will be contained for disposal off site, at a location which will be agreed with Clare County Council.

3.2 Description of Operational Works

There will be no on-going construction works at the site after completion of the slipway. During its operational life, there is likely to be an increase in boat movements from the area. The likelihood of this impacting on elements of conservation interest in the Natura site will be examined in Section 5 of this report. The current estimate of boat movements is of the order of 2 per week, with increased movement if/when there is a pilgrimage event on Canon Island. The proposed slipway will also be used by Bunratty Search & Rescue. It is (therefore) difficult to project the actual increase in number of boat movements associated with the development. There is no commercial activity currently associated with the quay, other than the agricultural element of current use of the site. The proposed development will facilitate this on-going use. However, it is very unlikely at operational stage that resultant channel movements arising from the proposed slipway would give rise to activity such as would impact on the conservation objectives of the Natura sites

3.3 Summary

There will be no surface water abstraction and no contaminated runoff arising on site during the proposed development works at the site. All existing site areas, not included in the proposed slipway development area are likely to remain in their current state. There will be no groundwater abstraction or discharge associated with the proposed development.

4. AQUATIC ENVIRONMENT OF THE PROPOSED SITE

4.1 Site Description

The proposed development site, Crovraghan Quay slipway, lies within the administrative area of Clare County Council. The improvement works proposed are located in the immediate vicinity of the quay, providing a slipway 6metres wide x 32 metres long, suitable for improved access to waters at all water levels. The use of the quay is currently limited to high water periods.

The existing quay and slipway at Crovraghan and the proposed slipway location are in a water body classed by the EPA as transitional (Code: IE_SH_060_1100, Name: Fergus Estuary) within the catchment of the Shannon Estuary North (Area Code 27) with an overall area of 1651.28 km². The Transitional Water Quality Status report of 2010-2015 indicates the water quality in the Fergus area is moderate. Discharges to the estuary waters from urban wastewater treatment units, serving agglomerations such as Ennis (North and South) and Clarecastle contribute a significant loading to the Fergus estuary. They are identified as point pressures to the water body. However, the waters are also deemed to be at risk from agriculture of not meeting the “good” status required by the Water Framework Directive (WFD 2000).

The WFD status of the water body is moderate (assigned in 2011). This status was assigned on the basis that fish received a moderate status. The moderate status was assigned as only two fish samples were taken instead of three. However, the dissolved oxygen, BOD and plankton were all

assigned High status. Molybdate reactive phosphate was assigned good status. The WFD risk category for the water body is 2b, i.e. strongly expected to achieve good status.

Table 2 summarises the main considerations in relation to the Fergus Estuary in the vicinity of the proposed slipway development.

Table 2; Receiving waters designation and WFD status

Characteristic	Classification	Comment
Receiving Water Name	Fergus Estuary	WFD Code: IE_SH_06_1100
Designations	Lower River Shannon SAC ⁵ River Shannon & River Fergus Estuaries SPA ⁶	Site Code; 002165 Site Code; 004077
Receiving Water Monitoring Stations	SN410 – Fergus Estuary at Clarecastle Bridge (EPA Code: TW03004131SN5001) SN430 – Fergus Estuary at Crow Island (EPA Code: TW03004131SN5003)	200m u/s of SW001 on Fergus Estuary ~5.5km d/s of SW001 on Fergus Estuary
WFD Status	Ecological –Moderate Chemical- Good	Restore
WFD Risk Category	2b	Strongly expected to achieve good status

The Fergus estuary water body is linked to the Shannon Estuary. It is influenced by tidal fluctuations and freshwater inputs. The 2010-2015 Water Framework Directive (WFD) ecological status for this water body was “moderate”. The nearest surface water stream to Crovraghan Quay, entering the Fergus estuary, (at Killadysert pier) is the Killadysert Stream (IE_SH27K03). There is no channel connection between Crovraghan quay and this water body.

4.2 Identification of Potential Impacts

Potential ecological impacts that could arise from the project are summarised in this section, in Table 3. These potential impacts are based on evidence based observation of other projects, which include appropriate management of the construction works to take full account of the likelihood of emissions or discharges to waters, and the sensitivity of the surrounding ecology of the area. The preparation works for construction of the slipway are included as a critical element of the project works. It is recognised that numerous impacts on the aquatic environment and associated habitats could be associated with the project, including

- Possible reduction in water quality associated with construction phase activities resulting from surface water runoff of pollutants
- Possible reduction in water quality associated with on-going operation of the slipway from pollutants such as fuels/oils

⁵ SAC; Special Area of Conservation

⁶ SPA; Special Protection Area

- Possible damage to nearby habitats within the SAC due to inappropriate construction site management
- Possible disturbance to local birdlife and wildlife during the construction phase
- Possible disturbance to local birdlife and wildlife during the operational phase due to increased usage of the SAC

Table 3; Potential Ecological Impacts of proposed project

<p><i>Description of elements of the project likely to give rise to potential ecological impacts sites</i></p>	<ul style="list-style-type: none"> ○ Clearing of the existing slipway area of vegetation, stones, debris resulting in sediment discharge into the water column and local dispersal ○ Pump out of water from shuttered area before and during construction ○ Increase in vehicle movement at quay side ○ Increase in noise emissions to air and water during construction activity ○ Use of fuels/oils/lubricants ○ Waste material storage
<p><i>Describe any likely direct, indirect or secondary ecological impacts of the project (either alone or in combination with other plans or projects) by virtue of</i></p> <p><i>Size and scale;</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Land-take; <input type="checkbox"/> Distance from Natura 2000 site or key features of the site; <input type="checkbox"/> Resource requirements; <input type="checkbox"/> Emissions; <input type="checkbox"/> Excavation requirements; <input type="checkbox"/> Transportation requirements; <input type="checkbox"/> Duration of construction, operation etc.; and <input type="checkbox"/> Other. 	<ul style="list-style-type: none"> ○ 0.02 hectares at existing quay and slipway ○ Sources of potential impacts for the duration of construction works (at the boundary of the Natura site; Lower River Shannon SAC (002165) and the River Shannon and River Fergus Estuaries SPA (004077)) include (<i>inter alia</i>) a program of excavation and construction adjacent to the boundary of the Natura sites, and, use of cementitious material in areas adjacent to the water body ○ The location of the works program directly in and adjacent to the aquatic environment means there is a direct connection to elements of conservation interest in the Natura sites ○ 20 loads ready-mix cement over 2 month construction period ○ If untreated, pollutants could disturb local water quality, or causing species displacement ○ Construction noise leading to temporary habitat disturbance for mammals or aquatic ecology locally ○ No significant excavation requirements ○ Transportation construction material to site ○ Vehicle movements associated with construction works and employees (6 movements per day) ○ 2 month construction period

5. NATURA 2000 SITES

5.1 Location of Natura 2000 sites relative to Crovraghan Quay

There is a number of Natura 2000 sites located within 15km of the proposed development site. These sites are shown in Figure 2. A full list of Natura 2000 sites are detailed in Table 4.

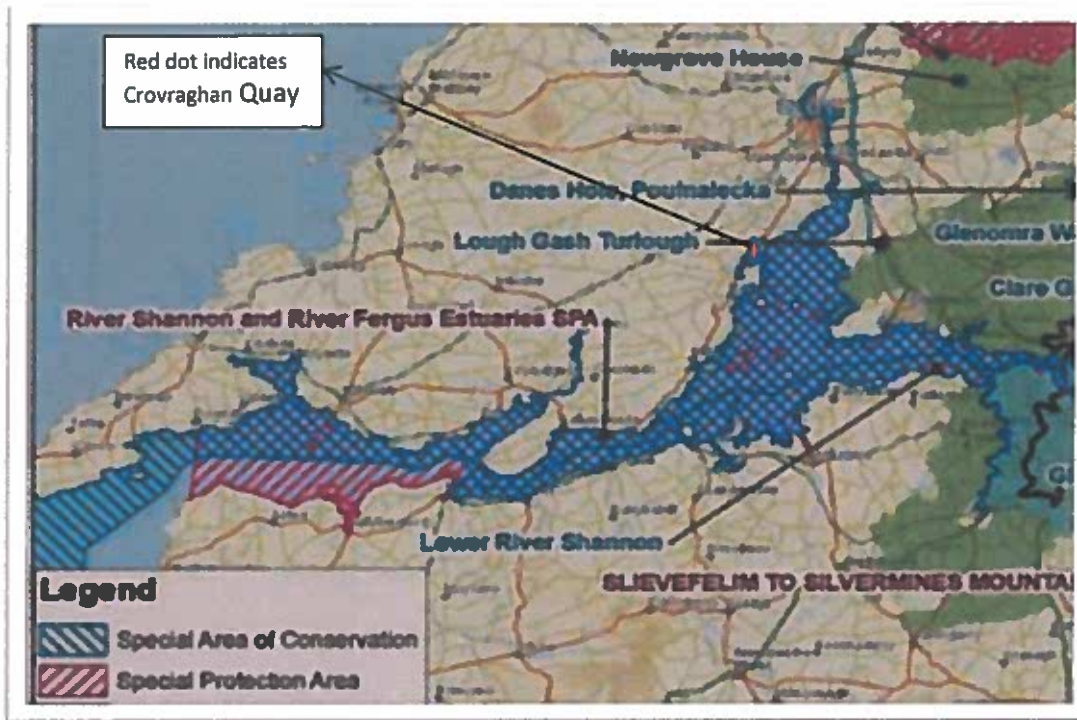


Figure 3; Natura 2000 site network within 15 km of the Crovraghan Quay

Site Name	Site Code	Distance and direction (km)	Reason for designation
Lower River Shannon SAC	002165	0	Several (see Section 5.2.1 below)
River Shannon & River Fergus Estuaries SPA	004077	0	Several (See Section 5.2.2 below)
Knockanira House SAC	002318	8 km (North)	Lesser Horseshoe Bat
Newhall and Edenvale Complex SAC	002091	14 km (North)	Caves not open to public Lesser Horseshoe Bat
Lough Gash Turlough SAC	000051	13 (North East)	Turlough, River with muddy banks
Askeaton Fen Complex SAC	002279	10 (South)	Calcareous and Alkaline fens

Table 4; Natura Sites within 15 km of the Crovraghan Quay site

5.1 Initial Screening

There are 6 Natura 2000 sites (Special Areas of Conservation (SAC) and Special Protection Areas for Birds (SPA) designations) located within 15km of the Crovraghan Quay site. Full details of all sites and associated elements of conservation interest for these sites can be found on www.npws.ie.

This screening takes account of the connectivity of the Crovraghan Quay site with the Natura Site network, including the potential scope of the site as a foraging/feeding/nesting/breeding site for species connected with the Natura Site network. There is a direct physical connection between the quay site and the Shannon Estuary, which has the associated Natura designated sites; Lower River Shannon SAC (Site Code 002165), and River Shannon & River Fergus Estuaries SPA (Site Code 004077). The quay and proposed slipway are on the aquatic boundary of these designated sites.

5.1.1 Sites with no connectivity by water body to the Crovraghan Quay site

Lough Gash turlough (Site Code 000051) and Askeaton Fen Complex (Site Code 002279) are water based sites, which have *no* connectivity to the Crovraghan Quay site. These are no potential for discharges to waters, or air arising at the Crovraghan Quay site to impact on these designated areas. This conclusion is reached on the basis that there is no known vector, pathway or conduit for any emissions between the proposed works site and these sites. These sites are screened out of this assessment process, on the basis that no significant impact can be transferred from the quay site at Crovraghan to these sites.

5.1.2 Sites with land connectivity, but no link liable to impact on elements of conservation interest within the designated site

The designated sites which are within 15 km of the Crovraghan Quay site are Newhall and Edenvale Complex SAC (Site Code 002091) and Knockanira House SAC (Site Code 002318). However, in the screening process it is important to examine the reason for their designation (element/s of conservation for which the site is designated) and, assess whether there is any potential for the proposed activity at the Crovraghan quay site to impact on the conservation status of these sites. The elements of conservation interest in all the sites were examined. The Crovraghan quay site is well outside the foraging range for the Lesser Horseshoe Bat (for which the above listed sites are designated). It was concluded that there was no potential for any element of the proposed slipway project at the Crovraghan quay site to give rise to any impact on these designated sites, by reason of the elements of conservation interest being specific to the designated site, and considering there is no potential for long range transmission of impact from the quay site to these sites by any vector, pathway or conduit. It is reasonably concluded that the slipway project at the Crovraghan quay site will not impact on these sites.

5.1.3 Sites to be carried forward or further screening from the initial screening exercise

Section 5.1.2 and 5.1.3 details the sites which have been screened out of this assessment, on the basis of finding no connectivity, or known pathway for transfer of impact (either directly or indirectly) from the Crovraghan site to these sites. The Lower River Shannon SAC (Site Code 002165) and the River Shannon and River Fergus Estuaries SPA (Site Code 004077) require more detailed consideration of their elements of conservation interest, and the potential for the

Crovraghan slipway project to impact on these sites either directly, indirectly or by way of cumulative impact arising with other projects in the area.

5.2 Sites Screened in for further consideration of potential impact

In this section of the report, the qualifying features and conservation objectives of the Natura 2000 sites included in this screening exercise are examined. The potential for the proposed slipway construction project at the Crovraghan quay to impact on the conservation interests of these sites is assessed. The works program is described in Section 3 above. Each of the Natura 2000 sites listed in Section 5.1.3 will be individually assessed.

The specific conservation objectives for each site are available on www.npws.ie. These have been accessed for the sites listed between January-March 2018. Site specific and detailed Conservation Objectives Series documents are available for both the Lower River Shannon SAC (002165) and the River Shannon and River Fergus Estuaries SPA (004077).

5.2.1 Lower River Shannon SAC description (Site Code: 002165);

Conservation Objective⁷: To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC (site) has been selected (see Tables 5 and 6 hereunder). A site-specific conservation objective aims to define the favourable conservation condition of a habitat or species at site level. Conservation objectives are defined using attributes and targets that are based on parameters as set out in the Habitats Directive for defining favourable status (at national level), namely area, range, and structure and functions. Various published documents refer to site specific habitats of the Lower River Shannon SAC, and have been consulted on the web site www.npws.ie (including Conservation Objectives for Coastal, Marine, Lagoon, Water Course and Woodland Habitats).

Table 5. Lower River Shannon SAC Habitats of Qualifying Interests

Code	Qualifying Habitats
1150	Coastal Lagoons* (* denotes priority habitat)
6410	Molinia Meadows on Chalk and Clay (Eu-Molinion)
1130	Estuaries
1140	Mudflats and Sandflats not covered by water at low tide
1330	Atlantic Salt Meadows (Gluco-puccinellietalia)
1410	Mediterranean Salt Meadows (<i>Juncetalia maritima</i>)
1310	Salicornia and other annuals colonizing mud and sand
1110	Sandbanks which are slightly covered by seawater at all times
1220	Perennial vegetation of stony banks
1230	Vegetated seacliffs of the Atlantic and Baltic coasts
1170	Reefs
1160	Large Shallow inlets and bays
3260	Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche Batrachion</i>
91E0	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> <i>AlnoPadion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i> *

⁷ Note that the terms 'conservation condition' and 'conservation status' are used to distinguish between site and the national level objectives respectively

Code	Species Name
1106	Salmon (<i>Salmo salar</i>) in freshwater
1095	Sea Lamprey (<i>Petromyzon marinus</i>)
1099	River Lamprey (<i>Lampetra fluviatilis</i>)
1355	Otter (<i>Lutra lutra</i>)
1349	Bottlenose Dolphin (<i>Tursiops truncatus</i>)
1029	Freshwater Pearl Mussel (<i>Margaritifera margaritiera</i>)

Table 6; Lower River Shannon cSAC Species of Qualifying Interest Species

The Lower River Shannon SAC is one of the most important sites in Ireland for over wintering waterfowl and several of these species are included in Annex I of the EU Birds Directive. A list of important water birds of the Lower River Shannon SAC is set out in Table 7, and, the remaining ecological information on protected species contained within the Natura 2000 Data Form for the Lower River Shannon cSAC is summarised hereunder (NPWS, 2011a) in Table 8

Table 7: Important Water birds of the Lower River Shannon SAC

Code	Species Name (Common Name)
A003	<i>Gavia immer</i> (Great Northern Diver)
A001	<i>Gavia stellata</i> (Red- throated Diver)
A010	<i>Calonectris diomedea</i>
A037	<i>Cygnus columbianus bewickii</i> (Bewick Swan)
A038	<i>Cygnus cygnus</i> (Whooper Swan)
A046	<i>Branta bernicla hrota</i> (Pale-bellied Brent Goose)
A140	<i>Pluvialis apricaria</i> (Golden Plover)
A157	<i>Limosa lapponica</i> (Bar-tailed Godwit)
A103	<i>Falco peregrinus</i> (Peregrine Falcon)
A105	<i>Oceanodroma leucorhoa</i>
A098	<i>Falco columbarius</i>
A191	<i>Sterna sandvicensis</i> (Sandwich Tern)
A193	<i>Sterna hirundo</i> (Common Tern)
A194	<i>Sterna paradisaea</i>
A346	<i>Pyrrhocorax pyrrhocorax</i> (Chough)
A229	<i>Alcedo atthis</i> (Kingfisher)
A157	<i>Limosa lapponica</i> (Bar-tailed Godwit)
A395	<i>Anser albifrons flavirostris</i> (Greenland White fronted Goose)

Species Name (Common Name)
Scirpus triquetrus (Triangular Club Rush)
Groenlandia densa (Opposite-leaved Pondweed)
Hordeum secalinum (Meadow Barley)
Viola hirta (Hairy Violet)
Rumex maritimus (Golden Dock)
Mentha pulegium (Pennyroyal)
Agrostemma githago (Corn Cockle)
Chara canescens (Bearded Stonewort)
Chara connivens (Convergent Stonewort)
Osmerus eperlanus (European Smelt)
Coregonus autumnalis (Pollan)
Meles meles (Badger)

Table 8: Other Species of Flora and Fauna of Importance)

5.2.1.1 Presence of qualifying interests and special conservation interests (associated with Lower River Shannon SAC) in the zone of influence of the proposed works area

Bearing in mind the potential impacts identified in Section 4.2 above, and the works proposed as outlined in Section 3.1 above, and its location, described in Section 4.1 above, relative to the distribution of species and habitats for which the Lower River Shannon SAC is designated and the varying degree of connectedness that exists between the subject site and the potential receptors, it is considered that not all of the qualifying features are exposed to the potential impacts identified. An evaluation based on these factors has been conducted to determine which qualifying species and habitats are considered to be plausible ecological receptors for potential impacts of the proposed development. This determined that only certain habitats and species, listed in Tables 9 and 10 below, should be selected for further assessment, taking account of the scale of the Lower River Shannon SAC (37,395 hectares) and, including the Annex I Habitats and Annex II species listed as qualifying interests of the Lower River Shannon cSAC.

Table 9: Qualifying Interests of the Lower River Shannon cSAC potentially within the zone of influence of the development site

	Code	Qualifying Interest	Recorded in Killadysert Creek
	Annex 1 Habitats	1150	Coastal lagoons* (* denotes priority habitat)
6410		Molinia Meadows on Chalk & Clay (<i>Eu-Molinion</i>)	
1130		Estuaries	✓
1140		Mudflats & Sandflats not covered by water at low tide	✓
1130		Atlantic Salt Meadows (<i>Glauco-puccinellietalia</i>)	✓
1310		Salicornia and other annuals colonizing mud and sand	✓
1410		Mediterranean Salt Meadows	
1110		Sandbanks which are slightly covered by seawater all times	
1220		Perennial vegetation of stony banks	
1230		Vegetated sea cliffs of the Atlantic and Baltic coasts	
1170		Reefs	
1160		Large Shallow Inlets and Bays	
3260		Floating Vegetation of <i>Ranunculus</i> of Plane, Submountainous Rivers	
91E0		Residual Alluvial Forests (<i>Alnion glutinosoincanae</i>)*	

Table 10: Qualifying Interests of the Lower River Shannon SAC potentially within the zone of influence of the development site

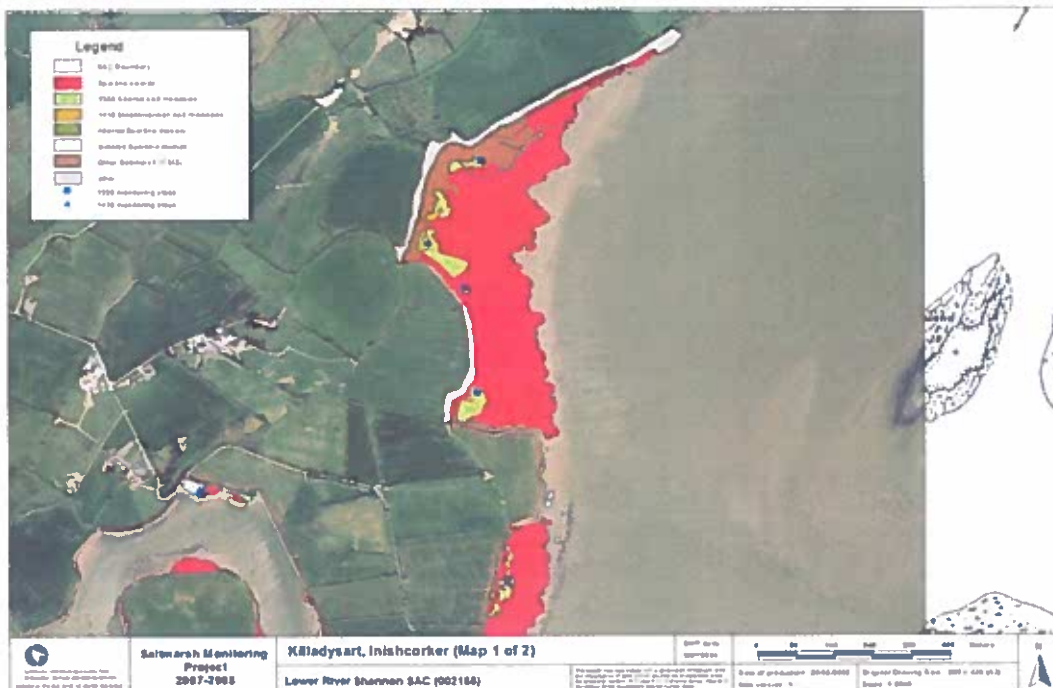
Annex 11 Species	Code	Qualifying Interest	Recorded in Killadysert Creek
	1349	Bottlenose Dolphin <i>Tursiops sp</i>	
	1355	Otter <i>Lutra lutra</i>	
	1095	Sea Lamprey <i>Petromyzon marinus</i>	
	1099	River Lamprey <i>Lamptera planeri</i>	
	1096	Brook Lamprey	
	1106	Atlantic Salmon <i>Salmo salar</i>	
	1029	Freshwater pearl mussel <i>Margetifera margetifera</i>	

5.2.1.1.1 Annex 1 Habitats; The coastal habitats of the Lower River Shannon SAC for which conservation objectives are defined are set out in the report entitled *Lower River Shannon SAC (site code 2165) Conservation objectives supporting document-coastal habitats (NPWS 2012)*. The coastal habitats in the vicinity of Killadysert (including Crovraghan) are mapped in this survey and set out in Table 11 hereunder

Table 11. Annex 1 Habitats currently listed in the Killadysert, Inishcorker area⁸

H1330	Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) (ASM)	2.94 hectares
H1410	Mediterranean salt meadows (<i>Juncetalia maritimi</i>) (MSM)	0.709 hectares
	Spartina Swards (Cord Grass) Non annex species	15.31 hectares

The mapped areas of Atlantic Salt Meadow in the vicinity of Killadysert and Crovraghan are provided in Figures 4 and 5 hereunder (reproduced from *Lower River Shannon SAC (site code 2165) Conservation objectives supporting document-coastal habitats (NPWS 2012) (Appendix IX)*).



⁸Surveyed in September 2008 in Salt March Monitoring Project (SMP) (McCorry and Ryle 2009)

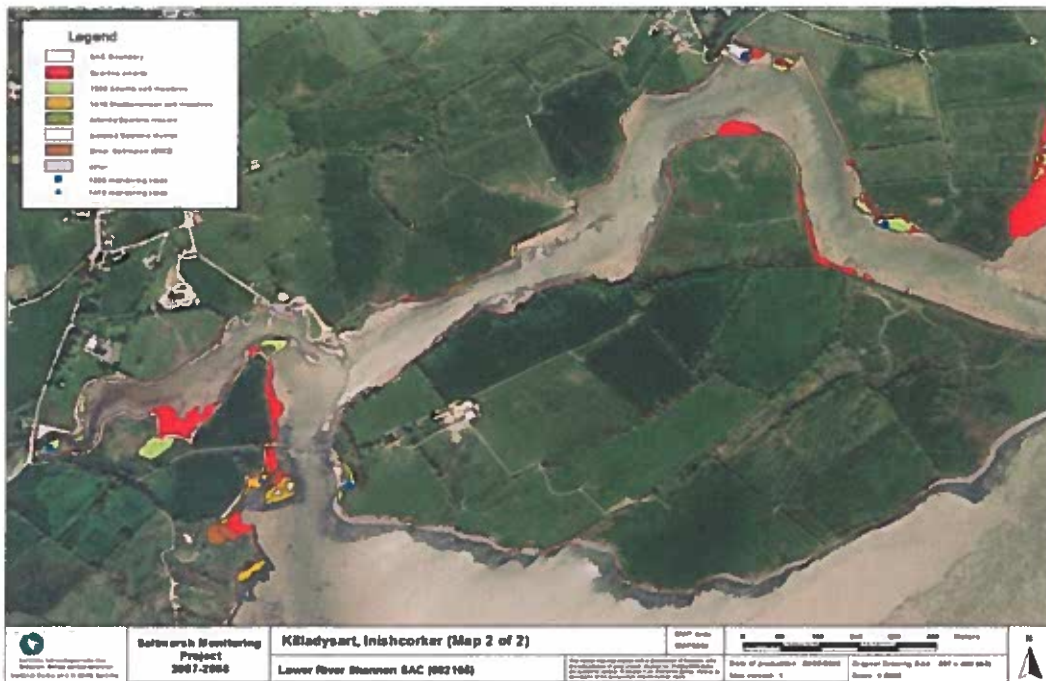


Figure 4 and 5; Mapped area of Atlantic Salt Meadow in vicinity of Killadysert and Inishcorker

Atlantic Salt Meadows (ASM) were the more dominant in the area with Mediterranean Salt Meadow (MSM) mostly confined to the lower half of the site, where it occurs to the south of the ford in Killadysert Creek. Sea wormwood (*Seriphidium maritimum*), a species of local distinctiveness, was recorded along the base of a small section of seawall at the northern end of the Killadysert Creek. (McCorry and Ryle, 2009).

The conservation status of these Annex I salt marsh habitats were listed as “favourable” in this survey (McCorry and Ryle 2009). Achieving Favourable Conservation Status (FCS) is the overall objective to be reached for all Annex I habitat types and Annex II species of European Community interest listed in the Habitats Directive 92/43/EEC (Commission of the European Communities, 2007). It is defined in positive terms; such that a habitat type or species must be prospering and have good prospects of continuing to do so. The conservation status of a site is assessed on the condition of the site and on baseline information. The main source of baseline information for this site is the NHA survey, the 1995, 2000 and 2005 OSI aerial photo series⁹.

The main threats identified for Atlantic Salt Meadow Annex I habitat (H1130) arises from overgrazing by sheep and cattle, erosion, infilling, reclamation, and invasive species (*Spartina*, or cord grass). This habitat is marine and groundwater dependent, with medium sensitivity to hydrological change, changes in salinity, tidal regime, overgrazing, erosion and accretion. The Crovraghan quay area is outside the habitat area identified in the Salt Marsh Monitoring project (McCorry and Ryle 2009), as indicated in the Google Earth map reproduced in Figure 6.

⁹ Lower River Shannon SAC (site code 2165) Conservation objectives supporting document-coastal habitats (NPWS 2012).

No other Annex 1 coastal habitats are identified in the vicinity of the Crovraghan Quay in the NPWS documentation.

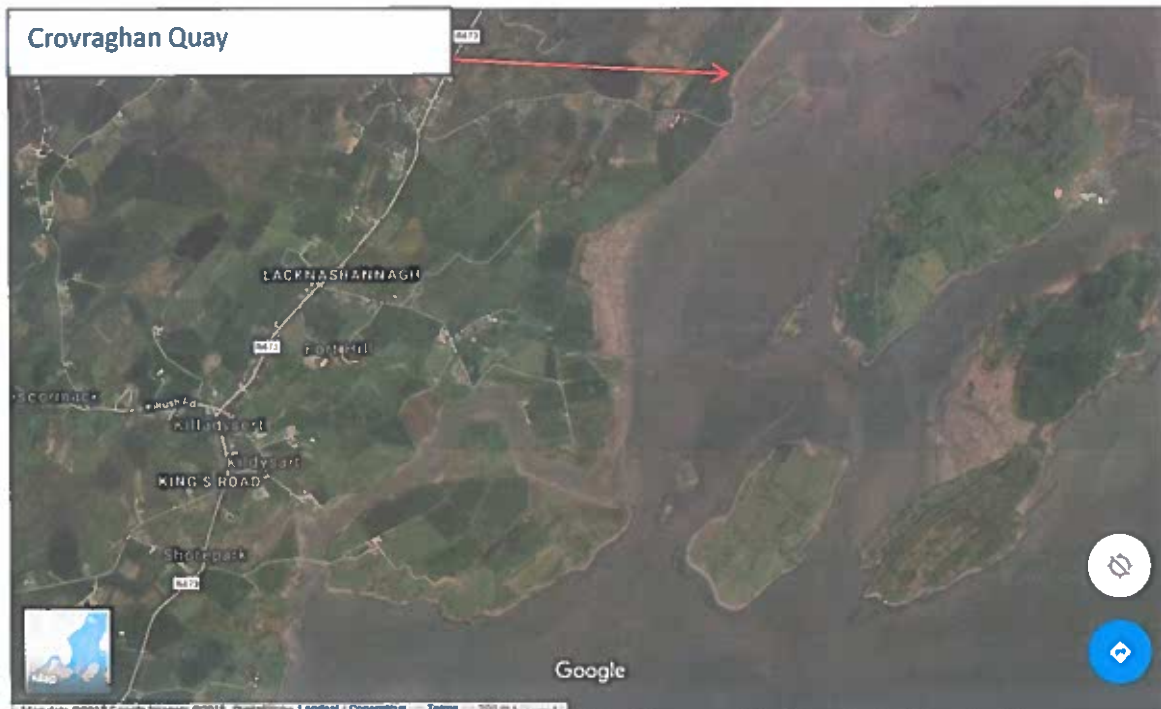


Figure 6. Crovraghan Quay location relative to Killadysert and Inishcorker (Google Maps)

Taking account of the nature of the proposed development, including the very limited area and construction period associated with the Crovraghan slipway project and the potential sphere of influence of the project works, and, including the separation of the works compound from the high water mark; the containment of works within a defined site area; the inclusion of methods for entrapment and containment of suspended solids in the site works program; and, implementing best practice operational methodology during the project works, it is considered that there will be no impact associated with the proposed slipway development project on the local water quality status, including no additional sediment deposition, or disturbance of mudflats adjacent to the site. It is therefore concluded that the works program at Crovraghan Quay will not impact on or disturb the favourable conservation status of the Annex I habitat identified due south of the Crovraghan site in the area of Killadysert and Inishcorker

This also means that there is no likelihood of indirect or in combination effects likely to arise between the proposed project works at the quay site and other projects (such as road project work, channel dredging, general construction works) in the catchment of the estuary in this area

5.2.1.1.2 Annex II Species, The Annex II species listed as Qualifying Interests for the Lower River Shannon SAC potentially present within the proposed works zone at the Crovraghan quay site include Otter (*Lutra lutra*). (Table 10). During the site walkover otter spraint was not noted.

Otter, (*Lutra lutra*) are widespread within the Lower River Shannon cSAC. The conservation status of this species is dependent on fish stocks, which are ultimately dependent on water quality. The conservation status of Otter within the Lower River Shannon cSAC is not currently available; however, the national conservation status is evaluated as being 'Inadequate' (NPWS 2008). Otters are considered 'Near Threatened' by Marnell et al. (2009). A diverse range of threats impact on the species, including use of pesticides, fertilisers, vegetation removal, professional fishing, hunting, poisoning, sand/gravel extraction, mechanical removal of peat, urbanisation, human habitation, industrial/commercial areas, polluting discharges, disposal of waste, management of bank vegetation for drainage, sediment removal, and, structures impeding movement along a river stretch. The works proposed at Crovraghan Quay (which is an existing quay and slipway, will not give rise to any threat to this species, by reason of good site management, containment and treatment of discharges (silt settlement lagoon/silt buster), and short works duration.

There should be no impact on water quality in the vicinity of the works site, and hence, no impact on fish stocks or macro invertebrates is likely to be associated with the proposed development, with no associated reduction in food supply for otter considered likely to be associated with the development.

Very limited site clearance works are proposed, and on-going access to the water body is unlimited in the area. There will be no loss of vegetative cover in the riparian area of the works, and no interference with the riparian area (other than the immediate location of the proposed improved slipway). No pesticide use is proposed in the area and, no fuel storage is required.

Otters are mainly nocturnal and no night time works are proposed.

Concrete pours will be managed to ensure no discharge to waters, and no other chemical will be used on site. No significant change in the noise or lighting status of the development will be associated with the proposed development, and no works are proposed for the site which will impact on local hydrology or local connectivity to the aquatic environment, such as could impact in any way on the hydrology or access routes or feeding grounds required for protection of the population of this species.

Incidental day time noise arising on the site will be short term, and will resemble agricultural machinery noise, which is typical of this rural area. Vehicle movements are already a feature of the site, with cars, trailers and boat movements being a daily occurrence.

Other Species of Flora and Fauna of Importance listed for the Lower River Shannon SAC include Badger; (*meles meles*), *Scirpus triquetrus* (Triangular Club Rush), *Groenlandia densa* (Opposite-leaved Pondweed), *Hordeum secalinum* (Meadow Barley), *Viola hirta* (Hairy Violet) *Rumex maritimus* (Golden Dock), *Mentha pulegium* (Pennyroyal), *Agrostemma githago* (Corn Cockle), *Chara canescens* (Bearded Stonewort), *Chara connivens* (Convergent Stonewort), *Osmerus eperlanus* (European Smelt), *Coregonus autumnalis* (Pollan).

Specific consideration is now given to the potential impact on Badger, Sea Wormwood, Golden Dock and Meadow Barley

Badger; (*meles meles*). No badger sett is identified in the vicinity of the Crovraghan quay site, or in the immediate catchment of the site. The proposed slipway improvement works will not give rise to damage to foraging grounds for this species. There is no tree felling, no pesticide use, no fuel or on site chemical use and, no intrusive works on existing ground around the quay

site proposed in the improvement works. Incidental day time noise arising on the site will be short term, and will resemble agricultural machinery noise, which is typical of this rural area. Vehicle movements are already a feature of the site, with cars, trailers and boat movements being a daily occurrence

Sea wormwood (*Seriphidium maritimum*), a species of local distinctiveness, was recorded along the base of a small section of seawall at the northern end of the Killadysert Creek. (McCorry and Ryle, 2009). This is over 4 km south of the Crovraghan site. Taking account of the limited scope and duration of the proposed works program at Crovraghan, there is no potential for any impact arising from the works on this plant.

Golden Dock (*Rumex maritimus*) was historically noted in surveys of the River Fergus estuary, but was not found during the most recent survey of the Killadysert-Crovraghan area (McCorry and Ryle 2009)

Meadow Barley (*Hordeum secalinum*). This species is listed on the Flora Protection Order and is also listed in the Red Data Book (Curtis and McGough 1998). Meadow Barley is found in brackish situations and in unimproved lowland meadows close to estuaries. At Inishdea, Owenshere (approx. 5 km north of Crovraghan on the western side of the estuary) it was recorded on dry transitional mounds on the saltmarsh and it was also locally frequent within some of the transitional grassland and upper saltmarsh, along the upper saltmarsh boundary. It has recently been recorded on saltmarsh found around some of the islands in the southern part of the Fergus Estuary (Canon Island) (NPWS Rare plant survey). No records of meadow barley are noted in the vicinity of the Crovraghan Quay.

In conclusion, the proposed improvement works on the Crovraghan Quay slipway are highly unlikely to have any significant direct, indirect or in combination effects on the Lower River Shannon SAC (Site Code 002165), including Annex 1 habitats, Annex II species and other Species of Flora and Fauna of Importance.

5.2.2 River Shannon and River Fergus Estuaries SPA (Site Code: 004077) Conservation Objective¹⁰: The overarching Conservation Objective for the River Shannon and River Fergus Estuaries Special Protection Area (SPA) is to ensure that water bird populations and their wetland habitats are maintained at, or restored to, favourable conservation condition. This includes, as an integral part, the need to avoid deterioration of habitats and significant disturbance; thereby ensuring the persistence of site integrity. The site designation should contribute to the maintenance and improvement (if necessary) of the favourable status of the national resource of water bird species, and the continuation of their long-term survival across their natural range.

The Shannon and Fergus estuaries form the largest estuarine complex in Ireland (20,002 hectares). They form a unit stretching from the upper tidal limits of the Shannon and Fergus

¹⁰ Note that the terms 'conservation condition' and 'conservation status' are used to distinguish between site and the national level objectives respectively

rivers to the mouth of the Shannon Estuary and support more waders and waterfowl than anywhere else in the country (NPWS, 2005). This site comprises the entire estuarine habitat west from Limerick City and south from Ennis, extending west as far some 25 km from east to west).

5.2.2.1; Presence of qualifying interests and special conservation interests (associated with River Shannon and River Fergus SPA) in the zone of influence of the proposed works area

The Special Conservation Interests of the River Shannon and River Fergus SPA are listed in Table 12

Both the Fergus and inner Shannon estuaries feature vast expanses of intertidal mudflats. The smaller sub-estuaries also feature mudflats, but have their own unique characteristics, e.g. Poulmasherry Bay, which is stony and unusually rich in species and biotopes (NPWS, 2006). In the innermost parts of estuaries, and typically observed in the Fergus Estuary, are tidal channels or creeks fringed with Common Reed (*Phragmites australis*) and Clubrushes (*Scirpus maritimus*, *S. tabernaemontani* and *S. triquetrus*). Saltmarsh vegetation frequently fringes the mudflats. Over twenty areas of estuarine saltmarsh have been identified within the site, the most important including saltmarsh within the Fergus Estuary and at Ringmoylan Quay (NPWS, 2006)¹¹. These areas provide important habitats for avifauna of the Fergus and Shannon estuary, and protection of these areas is included in the maintenance of favourable conservation status of the SPA.

Table 12: River Shannon and River Fergus Estuaries SPA Special Conservation Interests

Code	Species Name (Common Name)	Status
A017	Cormorant (<i>Phalacrocorax carbo</i>)	Breeding + Wintering
A046	Light-bellied Brent Goose (<i>Branta bernicla hrota</i>)	Wintering
A048	Shelduck (<i>Tadorna tadorna</i>)	Wintering
A050	Wigeon (<i>Anas Penelope</i>)	Wintering
A052	Teal (<i>Anas crecca</i>)	Wintering
A054	Pintail (<i>Anas acuta</i>)	Wintering
A056	Shoveler (<i>Anas clypeata</i>)	Wintering
A062	Scaup (<i>Aythya marila</i>)	Wintering
A137	Ringer Plover (<i>Charadrius hiaticula</i>)	Wintering
A140	Golden Plover (<i>Pluvialis apricaria</i>)	Wintering
A141	Grey Plover (<i>Pluvialis squatarola</i>)	Wintering
A142	Lapwing (<i>Vanellus vanellus</i>)	Wintering
A143	Knot (<i>Calidris canutus</i>)	Wintering
A149	Dunlin (<i>Calidris alpina</i>)	Wintering
A156	Black-tailed Godwit (<i>Limosa limosa</i>)	Wintering
A157	Bar-tailed Godwit (<i>Limosa lapponica</i>)	Wintering
A160	Curlew (<i>Numenius arquata</i>)	Wintering
A162	Redshank (<i>Tringa totanus</i>)	Wintering
A164	Greenshank (<i>Tringa nebularia</i>)	Wintering
A179	Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	Wintering
A999	Wetlands and Water Birds	

¹¹ River Shannon & River Fergus Estuaries Special Protection Area (Site Code 4077) Conservation Objectives Supporting Document, Version 1 National Parks & Wildlife Service, September 2012

The River Shannon and River Fergus SPA site is the most important coastal wetland in the country and regularly supports in excess of 50,000 wintering waterfowl, which is a concentration easily of international importance. The site has internationally important populations of Dunlin (*Calidris alpina*), Black-tailed Godwit (*Limosa limosa*) and Redshank (*Tringa totanus*). 16 other species have populations of national importance and they include: Cormorant (*Phalacrocorax carbo*), Whooper Swan (*Cygnus cygnus*), Greylag Goose (*Anser anser*), Shelduck (*Tadorna tadorna*), Wigeon (*Anas penelope*), Teal (*Anas crecca*), Pintail (*Anas acuta*), Shoveler (*Anas clypeata*), Scaup (*Aythya marila*), Golden Plover (*Pluvialis apricaria*), Grey Plover (*Pluvialis squatarola*), Lapwing (*Vanellus vanellus*), Knot (*Calidris canutus*), Bar-tailed Godwit (*Limosa lapponica*), Curlew (*Numenius arquata*) and Greenshank (*Tringa nebularia*). Golden Plover, Bar-tailed Godwit and Whooper Swan are all listed on Annex I of the EU Birds Directive.

The site is the most important site in the country for species such as Lapwing, Redshank and Shelduck and important migrants which utilise the SPA include Brent Goose (*Branta bernicla*), Greenland White-fronted Goose (*Anser albifrons flavirostris*), Black-tailed Godwit (*Limosa limosa*) and Whimbrel (*Numenius phaeopus*) (NPWS, 2005b).

The summary status of all bird species for which the site is noted in terms of national, regional and county scale importance is presented in *River Shannon & River Fergus Estuaries Special Protection Area (Site Code 4077) Conservation Objectives Supporting Document VERSION 1 National Parks & Wildlife Service September 2012* on the web site www.npws.ie.

The 2010/11 water bird survey programme presented in this Conservation Objectives Supporting Document was designed to investigate how water birds are distributed across coastal wetland sites during the low tide period, intertidal and sub-tidal foraging density, and roosting and other behaviours during high tide surveys. The surveys ran alongside and are complementary to the Irish Wetland Bird Survey (I-WeBS) which is a nationwide survey undertaken primarily on a rising tide or at high tide.

During counts the behaviour of water birds was attributed to one of two categories (foraging or roosting/other) while the position of birds was recorded in relation to one of four broad habitat types (intertidal, sub tidal, supratidal and terrestrial). A summary of the findings in relation to the OH533 sub site (presented in *River Shannon & River Fergus Estuaries Special Protection Area (Site Code 4077) Conservation Objectives Supporting Document VERSION 1 National Parks & Wildlife Service September 2012*), and the bird species listed as being of Special Conservation Interest in the River Shannon and River Fergus Estuaries SPA relevant to this subsite (OH533) is provided in Table 13.

Table 13. Summary of findings in sub site 0H533 for bird species listed as Special Conservation Interest in the River Shannon and River Fergus Estuaries SPA

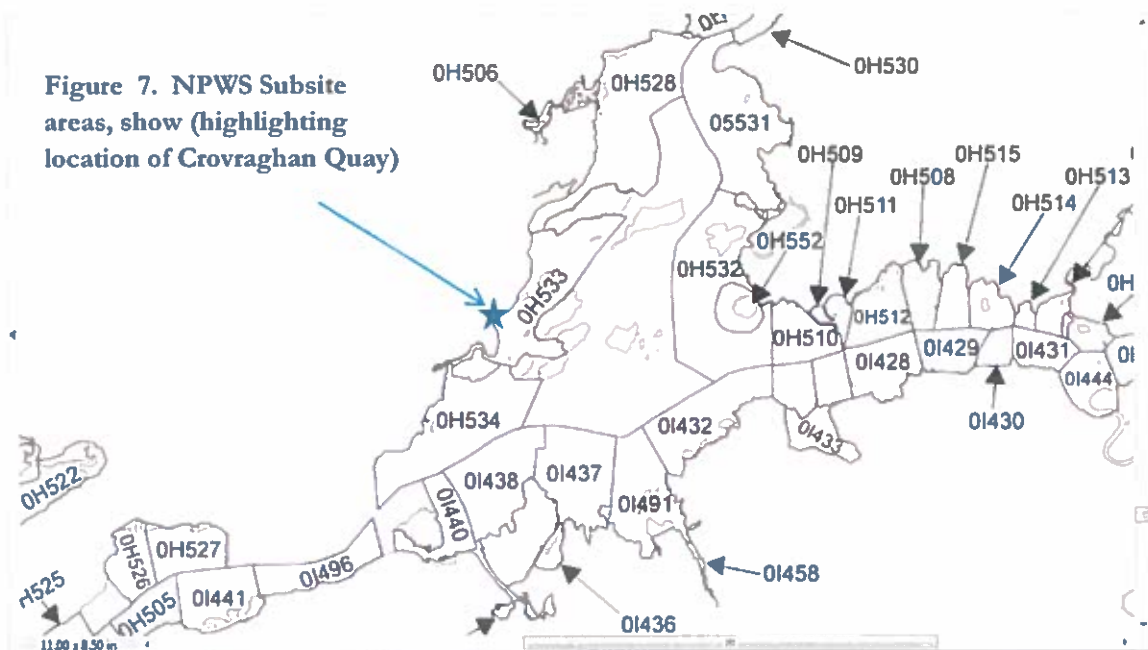
Code	Species Name (Common Name)	Status
A017	Cormorant (<i>Phalacrocorax carbo</i>)	Breeding + Wintering (noted during low tide survey in high numbers)
A048	Shelduck (<i>Tadorna tadorna</i>)	Wintering (noted during high tide survey)
A050	Wigeon (<i>Anas Penelope</i>)	Wintering (noted during low tide survey in high numbers)
A052	Teal (<i>Anas crecca</i>)	Wintering (noted during low tide survey in high numbers)
A140	Golden Plover (<i>Pluvialis apricaria</i>)	Wintering (noted during low tide survey in medium numbers)
A142	Lapwing (<i>Vanellus vanellus</i>)	Wintering (noted during low tide survey in medium numbers)
A143	Knot (<i>Calidris canutus</i>)	Wintering (noted during low tide survey in high numbers)
A149	Dunlin (<i>Calidris alpina</i>)	Wintering (noted during low tide survey in high numbers)
A156	Black-tailed Godwit (<i>Limosa limosa</i>)	Wintering (noted during low tide survey in medium numbers)
A157	Bar-tailed Godwit (<i>Limosa lapponica</i>)	Wintering (noted during low tide survey in very high numbers)
A160	Curlew (<i>Numenius arquata</i>)	Wintering (noted during low tide survey in high numbers)
A162	Redshank (<i>Tringa totanus</i>)	Wintering (noted during low tide survey in very high numbers)
A164	Greenshank (<i>Tringa nebularia</i>)	Wintering (noted during low tide survey in very high numbers)
A179	Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	Wintering (noted during low tide survey in high numbers)
A999	Wetlands and Water Birds	

The River Shannon and River Fergus Estuaries SPA is the largest wetland complex in Ireland; the SPA covering some 32,261 hectares. The Conservation Objectives Supporting Document presents data from a programme of four low tide counts in October/November 2010 and January/February 2011 completed across the site. 66 count sections (subsites) were used. Crovraghan and Killadysert area are within 0H533 sub site, which covers an area of 811.83 hectares. A total of 57 waterbird species were recorded during the 2010/11 survey programme at the River Shannon and River Fergus Estuaries. Cummins and Crowe (2011) provide a summary of waterbird data collected. A list of the top ten subsites based on highest average diversity (species richness) across the four low tide surveys is given in Table 14¹². The sub site 0H533 is listed in the top ten sub sites based on species richness. Crovraghan Quay site is located within this subsite area, indicated by the blue star (see Figure 7). This table also shows the diversity recorded during the high tide survey and the overall peak diversity recorded.

¹² River Shannon & River Fergus Estuaries Special Protection Area (Site Code 4077) Conservation Objectives Supporting Document, Version 1 National Parks & Wildlife Service, September 2012

Table 14; Top ten sites based on species richness across the tidal surveys

Subsite	Subsite name	Mean ((±S.D) Low Tide survey	High Tide Survey	Peak (L refers to peak obtained during low tide survey)
OK509	Carrig Island	26 (4.4)	17	30 (L)
OH519	Poulnasherry outer bay	25 (4.6)	15	31 (L)
OK508	Bunaclogga Bay	21 (1.9)	11	22 (L)
OK507	Dooneen Pt - Corcas	20 (3.6)	10	23 (L)
OI438	Aughinish Isl	19 (2.6)	14	23 (L)
OH528	Drumquin Pt.- Inishmore Pt.	19 (1.5)	19	21 (L)
OI437	Aughinish East	19 (1.3)	10	20 (L)
OH533	Inishmore Pt.-Inishou	18 (0.6)	13	18 (L)
OH534	Cahiracon	15 (3.3)	11	20 (L)
OH522	Clonderlaw Bay Inner	15 (5.2)	14	19 (L)



A separate note on each bird species is provided hereunder to indicate the particular requirements for foraging and roosting sites.

Wigeon have a widespread breeding distribution across northern Europe and Asia, from Iceland and northern Britain across Scandinavia, and northern Russia to the Russia to the Bering Sea coast (Wernham et al. 2002). The species is highly migratory. Five main wintering groups are known; birds breeding in northwest and northeast Europe and west Siberia spend winter in northwest Europe, including Ireland. Wigeon were recorded in high numbers in OH533 sub site and in 48 subsites overall

Teal has five breeding subspecies that occur across north and northwest Europe, Siberia and into Asia (Wetlands International, 2006). Teal are largely migratory, moving south of their breeding range during winter. Being highly responsive to cold spells they can show rapid and

extensive movement during these periods. Teal breeding in Britain and Ireland are supplemented during winter by birds from a range extending from Iceland, through Scandinavia to northwest Siberia (Wernham et al. 2002). Teal were recorded in high numbers in OH533 sub site and are relatively widespread occurring in 53 subsites overall and within 50 subsites during low tide surveys.

Cormorant breeds along the coasts of the North Atlantic from eastern Canada and the Norwegian coast in the north, to northwest France in the south. The species is only partially migratory or dispersive (Wernham et al. 2002). Most Cormorants in Ireland are of the nominate race and occur year-round, breeding primarily on rocky cliffs and offshore islands. Whilst most breeding birds are resident, a proportion of the population move south during winter. Cormorant were recorded in high numbers in OH533 sub site.

Wintering historically along the coast, since the 1960s there has been a gradual shift towards the use of inland freshwater sites (Mitchell et al. 2004), although the greatest concentrations of Cormorants still occur at coastal sites (Boland & Crowe, 2012).

The Eurasian **Golden Plover** is a Palearctic species, occurring mainly at higher latitudes of Western Europe to north-central Siberia and wintering south in Europe, north Africa and parts of Asia. Two subspecies are currently described. *P. a. altifrons* is the 'northern' form and breeds at high latitudes in Western Eurasia from Iceland and the Faeroes across northern Scandinavia to 1250E in the north Siberia lowlands south of Taymyr (Delaney et al. 2009). The nominate *P. a. apricaria* breeds at more southerly latitudes including Ireland and Britain and migrates south for winter. The Golden Plovers that winter in Ireland are thought to be mostly Icelandic-breeding birds *P. a. altifrons* (Wernham et al. 2002). Golden Plover was found in moderate numbers in the OH533 sub site

Lapwing is a monotypic species and has a wide Palearctic breeding distribution from Britain and Ireland in the west to Eastern and southern Siberia in the east with a southern limit extending into Spain (Delaney et al. 2009). Birds breeding in Britain and Ireland are partial migrants with some residing over winter and some migrating south. The wintering population is enhanced by Lapwings moving in from continental Europe and northern and western Britain (Wernham et al. 2002). Cold weather movements can see a greater flux of birds to Ireland's estuaries. Lapwing were noted in moderate numbers in the OH533 sub site and were recorded roosting intertidally across 42 subsites during the survey programme, including subsite OH533.

Knot are a high Arctic breeding species. Two populations are recognised in Western Eurasia and Africa - *C. c. canutus* and *C. c. islandica*. The latter breeds in north and east Greenland and northern Canada and winters in north-west Europe. Knot that winter in Ireland are almost entirely from the *islandica* population. The Wadden Sea is an important staging ground for the species after a non-stop flight from the breeding grounds (van der Kam, 2004). Knot were recorded in 25 subsites overall but with regularly (three low tide surveys or more) within only five subsites: OH522, OH528, OH531, OH533, OH534.

Dunlin is a Holarctic and highly migratory wader, breeding widely in Arctic zones across Europe, Asia and North America. The nominate form *alpina* breeds from northern Scandinavia

eastwards across European Russia and western Siberia to 850 E (Delaney et al. 2009). This race migrates southwest to winter along the coasts of Western Europe, south to Iberia, western Mediterranean and beyond. The majority of Dunlin wintering in Ireland are *C. a. alpina* that originate from the western part of their breeding range and moult mainly in the Wadden Sea before starting to arrive in Ireland during October (Crowe, 2005). Ireland has a small and declining breeding population of *Calidris alpina schinzii* which are believed to winter mainly in west Africa (Delaney et al. 2009). Dunlin were recorded within 53 subsites, including OH533. These results suggest that Dunlin have a widespread foraging distribution across the site and as a versatile species, they are likely to exploit a variety of intertidal food resources.

Black-tailed Godwits have a widespread Palearctic breeding distribution. Four populations are recognised – three populations of the nominate *L. l. limosa* and one *L. l. islandica*, the latter of which breeds almost exclusively in Iceland and winters in Britain, Ireland, Spain, Portugal and Morocco (Delaney et al. 1999). Recoveries and sightings confirm that Black-tailed Godwits wintering in Ireland are of the *islandica* race, whereas further south (e.g. Spain and Portugal) some mixing of *limosa* and *islandica* occurs in the non-breeding season (Wernham et al. 2002). Black-tailed godwits were found in moderate numbers in OH533

Bar-tailed Godwit has a widespread breeding distribution across the sub-arctic and low Arctic zones of the Palearctic and extending into western Alaska (Delaney et al. 2009). The taxonomy of the species is complex but five subspecies are generally recognised. The nominate subspecies *L. l. lapponica* breeds across the higher latitudes of Northern Europe, Russia and Siberia and west and winters mainly in Western Europe, including Ireland. The Wadden Sea is used by *L. l. lapponica* and other populations as a staging and moulting area in autumn and spring. Bar-tailed Godwits were recorded in 17 subsites overall, including OH533 in very high numbers. Bar-tailed Godwits forage by probing within intertidal sediment for invertebrate species, predominantly large polychaete worms such as *Arenicola marina* and *Nephtys* sp. They often feed at the tide edge with their heads in water. The species is characteristic of sites with sandy substrates (e.g. Hill et al. 1993) or sections of a site that have sandy (as opposed to muddy) sediment. Bar-tailed Godwits were not recorded in roosting/other behaviour during low tide surveys.

Curlew has a widespread breeding range across temperate latitudes of the Palearctic region, occurring across Europe and Asia from Ireland in the west to northern China in the east (Delaney et al. 2009). The nominate subspecies breeds across Europe and winters in Europe. Ireland supports a small and declining population of breeding Curlew. Irish breeding Curlew are thought to make only short migrations, many are resident during winter. Wintering numbers are enhanced by birds moving in from breeding grounds in Fennoscandia, the Baltic and northwest Russia (Delaney et al. 2009).

Curlew had a widespread distribution across the site, occurring in 61 subsites overall, including OH533. Curlews are the largest wader to spend the non-breeding season within Ireland. Within intertidal areas they seek out larger prey items such as crabs, large worms and bivalves and their de-curved bill is ideally suited to extracting deep-living worms such as Lugworms (*Arenicola marina*). Curlews also feed amongst damp grasslands where they take terrestrial worms.

Curlews exhibited a widespread foraging distribution, foraging in a total of 60 subsites during the survey programme, including sub site OH533.

Greenshank is a monotypic species that breeds widely across Northern Eurasia. Two populations are recognised in Western Eurasia and Africa, of which one, breeds in northern Europe and winters mainly in Southwest Europe, Northwest Africa and west Africa (Delaney et al. 2009). Ireland supports a relatively small proportion of this population during winter. Greenshanks were recorded within 44 subsites overall, including OH533.

Greenshanks usually forage within (wading) or beside watercourses where they exhibit a variety of feeding methods to take a diversity of prey including insects, polychaete worms and small fish. Greenshanks foraged widely across the site, foraging intertidally within 40 subsites and subtidally within 13 subsites. Peak numbers foraging intertidally during low tide surveys were recorded for OK508 (Bunaclogga Bay), OI437 (Aughinish East), OH533 (Inishmore Pt-Inishoul) and OH521 (Clonderlaw Bay outer) for the four low tide surveys respectively.

Redshank breeds widely across the Palearctic in a band that extends both into the low arctic and Mediterranean zones, from Iceland through continental Europe and Russia to eastern Siberia, China and Mongolia. The taxonomy of the species has proved complex but five populations are recognised currently including *T. t. britannica*, a small and declining population that breeds in Britain and Ireland, and *T. t. robusta* which breeds in Iceland and the Faeroes and winters in Britain, Ireland and the North Sea area (Delaney et al. 2009). Redshanks were widespread and recorded within 62 subsites overall, including OH533 in very high numbers (peak numbers)

Redshanks forage mainly by pecking at the surface or probing within intertidal mudflats; often favouring the muddier sections of sites (e.g. Rehfish et al. 2000) where they prey upon species such as the Ragworm *Hediste diversicolor* and Mud Snail *Hydrobia ulvae*. A particularly favoured prey is the burrowing amphipod *Corophium volutator*.

Redshanks foraged and roosted widely across the sites including OH533 recording peak numbers

Black-headed Gulls breed widely throughout the middle latitudes of the Palearctic and in north-eastern North America (Mitchell et al. 2004). They are the most widespread breeding seabird within Ireland, breeding both inland and on the coast. Winter numbers are boosted by birds arriving from northern and eastern Europe (Wernham et al. 2004). There is some evidence that gulls from Iceland also move into Ireland for the winter (BWPI, 2004). Black-headed Gulls were recorded within 60 subsites, including OH533 in high numbers. Black-headed Gulls were recorded foraging intertidally across 57 subsites, including OH533

5.2.2.2 Likely factors causing disturbances to water birds¹³

The National Parks and Wildlife (NPWS) report activities causing disturbance to water birds during the 2010/2011 water bird survey programme, which were recorded for 33 of the total 66 subsites (50%). These activities relate to nine categories as follows:

- Activities associated with intertidal aquaculture,

¹³ Based on NPWS data 2010/2011 survey and Conservation Objective Supporting Document for River Shannon and River Fergus Estuaries SPA

- Aircraft,
- Bait-digging,
- Hand gathering of molluscs,
- Horse riding,
- Motorised vehicles,
- Powered watercraft,
- Shooting and walking (incl. dogs).

Full results of the disturbance assessment are shown in Appendix 11 to the *River Shannon & River Fergus Estuaries Special Protection Area (Site Code 4077) Conservation Objectives Supporting Document, Version 1 National Parks & Wildlife Service, September 2012*. The report cautions that the events listed above are scored separately but cumulative effects are likely. Walking (intertidal areas and including dogs) was the most widespread activity and responsible for the peak disturbance score for 14 subsites.

A review of the sub sites listed in the report shows that these activities were not considered as significant in the OH533 subsite. In the vicinity of Crovraghan Quay, there is an existing level of activity associated with the quayside, coupled with existing hard surfaces in this area. The proposed slipway will be located within the quayside area of hard surfaces, with no new access proposed. The level of activity at the quay is likely to increase, and probably double in terms of use of the area. However, boat movements are generally slow moving in this area, and are less likely to cause disturbance than faster moving craft. Rougher sea conditions combined with fast moving crafts are more likely to give rise to disturbance. The Crovraghan Quay area is a sheltered quayside, with much less turbulence than the open sea. There is no open wetland area adjacent to the quay. Hence, taking account of the relatively low level use, a doubling of current use is unlikely to give rise to a significant increase in disturbance. There is also likely to be a degree of acclimation to the on-going movements at the quayside.

There is no local discharge of pollutants in the area of Crovraghan Quay, and no discharge of surface water in the area. Water quality in the area is likely to be good, and no deterioration in water quality is anticipated with the proposed development, either during construction works or on-going operation of the slipway. No negative impacts on water quality are likely to arise such as could impact on bird life or water birds in the area, or indirect effects due to changes to invertebrate community composition, spatial distribution and/or abundance.

As the area is already a hard surface area, with existing quayside and boat movements, the provision of a slipway will not give rise to fragmentation of any existing habitat for foraging or roosting bird species. Even with short term disturbance during construction, there is an abundance of undisturbed habitat in the area, and an abundance of food resources in mud flats, with no increase in predation or competition in these areas.

In conclusion, taking account of the nature of the proposed development and the existing hard surfaces, and use of the quay; the containment of works within a defined site area; the inclusion of methods for entrapment and containment of suspended solids in the site works program;

and, implementing best practice operational methodology, it is considered that there will be no impact associated the proposed improvement works on the Crovraghan Quay slipway are highly unlikely to have any significant direct, indirect or in combination effects on the River Shannon and River Fergus Estuaries SPA (Site Code 004077), including any bird species of conservation interest, or give rise to any damage to feeding, foraging or roosting areas for these birds, or any loss of feeding habitat. No works are proposed which are likely to give rise to significant direct or indirect impacts on the adjacent estuarine water body, and no disturbance of local hydrology is proposed, so that there is no potential to impact on the population of the species for which the site is designated. The upstream and downstream habitats of the Fergus Estuary and the wider Shannon Estuary are not within the zone of influence of the proposed development site. It is (therefore) concluded that there will be no impact on the special conservation interests of the River Shannon and River Fergus SPA.

5.3 Summary and Conclusion

Table 15 presents a summary of the assessment undertaken on the proposed Crovraghan slipway activity, and in the concluding comment is referring to the to the potential impact on the elements of conservation interest assessed in the Natura sites examined in this screening report, namely, Lower River Shannon SAC (Site Code 002165) and River Shannon and River Fergus Estuaries (Site Code 004077)

Table 15; Summary of assessment undertaken on proposed improvement works at Crovraghan slipway.

Conservation Interest assessed	Comment
Reduction of habitat area in designated site/s associated with the project	No reduction in habitat area, as proposed development is located within the existing quay/slipway area, with existing quayside use and boat movements. Proposed improvement will be managed and constructed to ensure it does not give rise to emissions likely to cause any habitat reduction, or infringe of water quality
Disturbance of key species	No disturbance of key species identified, no deposition of sediment likely to occur with silt trap system in sue during construction works. On-going use of the quay will continue, with some increase in use, but overall increase is unlikely to give rise to species disturbance in the area
Habitat or species fragmentation	None. Proposed development site is located within the existing quay site, and will not encroach on the estuary, or give rise to discharges which would damage/fragment habitat local to the site
Reduction in species density	None.
Changes in key indicators of conservation value (water quality etc.)	None. Screening focus on prevention of discharges to waters during construction and maintenance of water quality status. No change in water quality status likely to be associated with the proposed development. No change in status likely to be associated with the Fergus or Shannon Estuary
Interference with key relationships that define the structure/function of the site/s	No interference with structure or function of the designated sites. The quay is located adjacent to the Natura sites and directly connected to the sites. However, construction works will be managed to ensure no polluting discharges to waters take place. There will be no impact on this water body

6. FINDING OF NO SIGNIFICANT IMPACTS

No potential for adverse direct or indirect effects on the Lower River Shannon SAC (Site Code 002165) or the River Shannon and River Fergus Estuaries (Site Code 004077) has been identified during the screening process either via direct or indirect discharges to waters, or other emissions associated with the proposed slipway improvement works at Crovraghan Quay site and no likelihood of impacts on Annex 1 habitats or Annex II species affecting Qualifying Interests of the Lower River Shannon SAC have been identified.

No potential for adverse direct or indirect effects on the Special Conservation Interests for Lower River Shannon SAC (Site Code 002165) River Shannon and River Fergus Estuaries SPA (Site Code: 004077) has been identified during the screening process either via direct or indirect discharges to waters, damage to habitats, foraging grounds or nesting grounds. No noise or visual disturbance to birds feeding on the adjacent mudflats and surrounding grasslands is likely to be associated with the proposed activity and no change in site lighting is proposed

No potential knock on effect on the habitats supporting the conservation interests of the Lower River Shannon SAC or the River Shannon and River Fergus Estuaries SPA are identified in this screening process. This is also based on the limited scope of works proposed at the quay site, with short term construction works proposed and no discharges of polluting matter to waters, liable to impact upstream or downstream aquatic habitats.

7. CUMULATIVE IMPACTS WITH OTHER PLANS/PROJECTS

The screening for Appropriate Assessment also requires consideration of the proposed slipway construction activity at the Crovraghan quay site in combination with other plans or projects, which may give rise to cumulative impacts affecting a Natura 2000 site.

Given the relatively remote location of the quay site, surrounded by agricultural lands, with limited use of the existing quay, and taking account of the limited scope of the construction project, it is clear that the approach to assessing the cumulative impact must be driven by whichever potential element of the activity is liable to generate an impact on the Natura sites in question. The main consideration in a construction project, close to a water body is the management of suspended solids and silt discharges to waters. Discharges to water arising in the works area will be treated to remove suspended solids, using either a settlement lagoon or silt interceptor. Cementitious material will be poured in a contained area, with no discharges to waters.

No other projects are being conducted in the area, liable to give rise to solids discharges, or dredging of solids, or water disturbance. As such, there is no potential spatial or impact overlap between this and other projects in the surrounding estuary area, and, no in combination impact arising due to changes in water quality for the Natura 2000 sites

Therefore, in the absence of impacts arising from the proposed slipway construction and operation activity at the Crovraghan site, there will be no potential for further cumulative

impacts arising in combination with any other plans or proposals which would be of significance in respect of impacts affecting the conservation objectives or integrity of the Lower River Shannon SAC or the River Shannon and River Fergus SPA.

Finding of No Significant Effects Report Matrix

Table 1; Development Description

Development Consent Type	<i>Planning Permission</i>
Development Location	<i>Crovraghan Quay, Killadysert, Co Clare E527805 N660144</i>
Planning File Reference	<i>Not yet assigned</i>
Description of project; Improvement works at existing quay, by provision of a slipway to replace existing substandard slipway. The new slipway would be 32 metres long x 6 metres wide. No additional works are proposed in the area. Construction works are likely to require 2 months. A temporary works compound will be set up to contain all cement, or cement mixing. In addition, suitable interception of run off from the construction works will be provided to ensure no polluting matter is discharged to waters.	

Table 2: Identification of Natura 2000 sites which may be impacted by the proposed development

1	Impacts on designated rivers, streams, lakes and fresh water dependant habitats and species.	Is the development in the catchment of or immediately downstream of a watercourse that has been designated as a Natura 2000 site? Relevant sites are	Yes Site Code 002165 Site Code 004077
2	Impacts on terrestrial habitats and species.	Is the development within 10 km of a Natura 2000 site with terrestrial based habitats or species? Relevant sites are:	Yes As for 1 above
3	Impacts on designated marine habitats and species	<i>Is the development located within marine or intertidal areas and within 1 km of a Natura 2000 site whose qualifying habitats or species include priority habitats</i> Relevant sites are:	Yes As for 1 above
4	Impacts on birds in SPAs	<i>Is the development within 1km of a Special Protection Area</i> Relevant sites are	Yes As for 1 above
5	Indirect effects	<i>Is the development, in combination with other existing or proposed developments likely to impact on an adjacent Natura 2000 site?</i> <i>Is any emission from the development (including noise) likely to impact on an adjacent habitat or species?</i>	No No

Conclusion: If the answer to all of the above is no, significant impacts on Natura 2000 sites are unlikely.

No further assessment is required, go directly to the conclusion statement.

If the answer is “unknown” / “yes” proceed to Table 3 and refer to the relevant sections of Table 3.

Table 3; Identification of potential impacts

1	Impacts on designated rivers, streams, lakes and fresh water dependant habitats and species. <i>Please answer the following if the answer to question 1 in table 2 was "yes" or "unknown". Does the development involve any of the following:</i>	
1.1	Removal of or interference with habitat within the Natura 2000 site. This may include any element of a project liable to interfere with breeding, nesting or roosting sites of birds, bats, water based species	No
1.2	Discharges either directly (via pipe from the development) or indirectly (via sewer) to surface water or groundwater What is the likely volume of the discharge?	Surface water discharges from site (on-going).
1.3	Abstraction from surface water or groundwater in or adjacent to a Natura 2000 site, where hydrology is a critical element in the protection of habitat and species at the site? What is the likely volume of the abstraction?	No
1.4	Is removal of topsoil proposed within 10m of watercourses? What transportation requirements are provided? Does the removal involve reduction in area, population density or fragmentation of area of any habitat or species	No No
1.5	Infilling or raising of ground levels within 10m of watercourses? What transportation requirements are provided? Does the infilling or raising involve interference with area, population density or fragmentation of area of any habitat or species?	No No
1.6	Construction of drainage ditches - (scale?). Is the drainage run off directed to a Natura 2000 site where species are identified and whose conservation status may be impacted by this drainage?	No
1.7	Installation of waste water treatment systems; percolation areas; septic tanks within 10 m of watercourses.	No
1.8	Construction within a floodplain or within an area liable to flood	No
1.9	Crossing or culverting of rivers or streams, installation of weirs	No
1.10	Storage of chemicals hydrocarbons (including oils and fuels) within 10m of a watercourse	No
1.11	Development within catchment of a Natura 2000 site of a scale or type which involves the production of an EIS	No
1.12	Consideration of effects in combination with existing development?	No in combination effect likely

2	Impacts on terrestrial habitats and species. <i>Please answer the following if the answer to question 2 in table 2 was "yes"</i> <i>Does the development involve any of the following: :</i>	
2a	Removal of, or interference with habitat within the Natura 2000 site. This includes reduction in habitat area or fragmentation of habitat. Is the timing of this interference liable to impact on the nesting or breeding period of any protected species	No interference with habitats
2b	Construction of roads or other infrastructure on peat habitats within 1km of bog, marsh, fen or heath habitat within a Natura 2000 site	No
2c	Is the development liable to impact on water quality in the Natura 2000 site, or liable to give rise to any change in a key indicator of water quality, including salinity. If yes, is the site designated for any bird species or other plant species whose feeding ground or life cycle may be affected by changes in water quality?	No, assessment of water quality in inflowing water body assessed. No impact considered likely
2d	Development within 1km of terrestrial Natura 2000 site of a scale or type which involves the production of an EIS.	No
3	Impacts on designated marine habitats and species. <i>Please answer the following if the answer to question 3 in table 2 was yes.</i> <i>Does the development involve any of the following</i>	
3a	Removal of, or interference with habitat within the Natura 2000 site. This includes timing of the project if there is potential to interfere with nesting or breeding periods, either directly or indirectly (e.g. by noise emission) or any aspect of the life cycle of a protected species. This also includes potential fragmentation, size reduction of habitat, or reduction in species density	No, no reduction in habitat or interference with habitat
3b	Coastal protection works on intertidal or marine habitats within 5km of a Natura 2000 site supporting coastal or marine habitats or species. This includes any works which may give rise to potential changes in hydrology or salinity of these areas.	No
3c	Development of piers, slipways, marinas, pontoons or any other infrastructure within 5km of a Natura 2000 site that was designated because it supports marine habitats and/or species	Improvement work on existing slipway
3d	Dredging within 5km of a Natura 2000 site supporting coastal or marine habitats or species.	No dredging involved
3e	Removal of topsoil or infilling within 100m of marine habitats within the designated site	No
3f	Land based development within 1km of a Natura 2000 site of a scale or type which involves the production of an EIS.	No
3g	Marine or intertidal based development within 5km of a Natura 2000 site of a scale or type which involves the production of an EIS.	No

4	Impacts on birds in SPAs <i>Please answer the following if the answer to question 5 in table 2 was yes.</i> <i>Does the development involve any of the following</i>	
4a	Removal of, or interference with habitats within an SPA. This includes consideration of indirect and in combination effects on the feeding, breeding and nesting grounds of Annex 1 birds	No
4b	All construction works within 100m of intertidal areas – Coastal SPAs, including indirect and in combination effects on the feeding, breeding and nesting grounds of Annex 1 birds	No

Screening Conclusion Statement

Development Type	<i>Permission required for improvement works on existing slipway at Crovraghan Quay, Killadysert, Co Clare, using imported stone and concrete (max 300 cubic metres)</i>
Development Location	<i>Crovraghan Quay, Killadysert</i>
Natura 2000 sites within impact zone	<i>Lower River Shannon SAC (Site Code 002165) and River Shannon and Fergus Estauries Special Protection Area (Site Code 004077)</i>
Qualifying Interests of Natura 2000 site	<i>Multiple, See site synopsis www.npws.ie</i>
Planning File Ref	<i>Not yet assigned</i>
Documentation reviewed for making of this statement	
<i>DoE Guidelines, NPWS Website- including all publications provided on Conservation Objectives of Sites Codes 002165 and 004077, EC Guidance Document Assessment of Plans and Projects Significantly affecting Natura 2000 Sites; Methodological Guidance on the provisions of Article 6(3 and 6(4) of the Habitats Directive 92/43/EEC, Sea Fisheries Protection Authority reports on Shellfish waters in Ireland (with particular reference to Shannon Estuary area)</i>	
Description of the project	
<i>Improvement works on Crovraghan slipway, which will require provision of 6 x 32 m slipway to provide improved access to waters over varying tide levels</i>	
Description of the Natura 2000 site(s); See Site Synopsis for all sites listed in the report under www.npws.ie	
Is the project directly connected with or necessary to the management of the site?	<i>No</i>
Are there other projects or plans that together with the project or plan being assessed could affect the site?	
<i>Not within catchment of the site in this waterbody</i>	
Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 site	
<i>No impact on elements of conservation interest likely to arise during the construction or operation of the facility</i>	
Are identified effects considered to be significant?	<i>No</i>
If the answer to the above is no, explain how these impacts will be avoided.	
<i>Appropriate works compound will be established at least 5 metres from the waters edge. Run off from this area will be intercepted to remove suspended solids, using either a settlement lagoon or silt interceptor. Slipway area will be shuttered to contain poured concrete lays, with no discharge to waters.</i>	
Conclusion of assessment	
<i>It is determined on the basis of objective information supplied in the application and consideration of up to date reports on the Natura 2000 site, and consideration of the developments in the area that significant effects can be excluded. No further assessment is required</i>	
Completed by	<i>Mary Burke, B Sc (Hon Chem), Certificate in Biodiversity (UCG)</i>
Date	<i>16/03/2018</i>

Mary Burke 16/3/2018

Appendix A

Site location and slipway design

Surveyed 2000
Revised 2016-2017
Levelled

Rural PLACE Map



ITM CENTRE PT. COORDS

527755,860199

DESCRIPTION

MAP SHEETS

Digital Map
4615 4874
4875 4814



Area shown on this map is based on the Ordnance Survey
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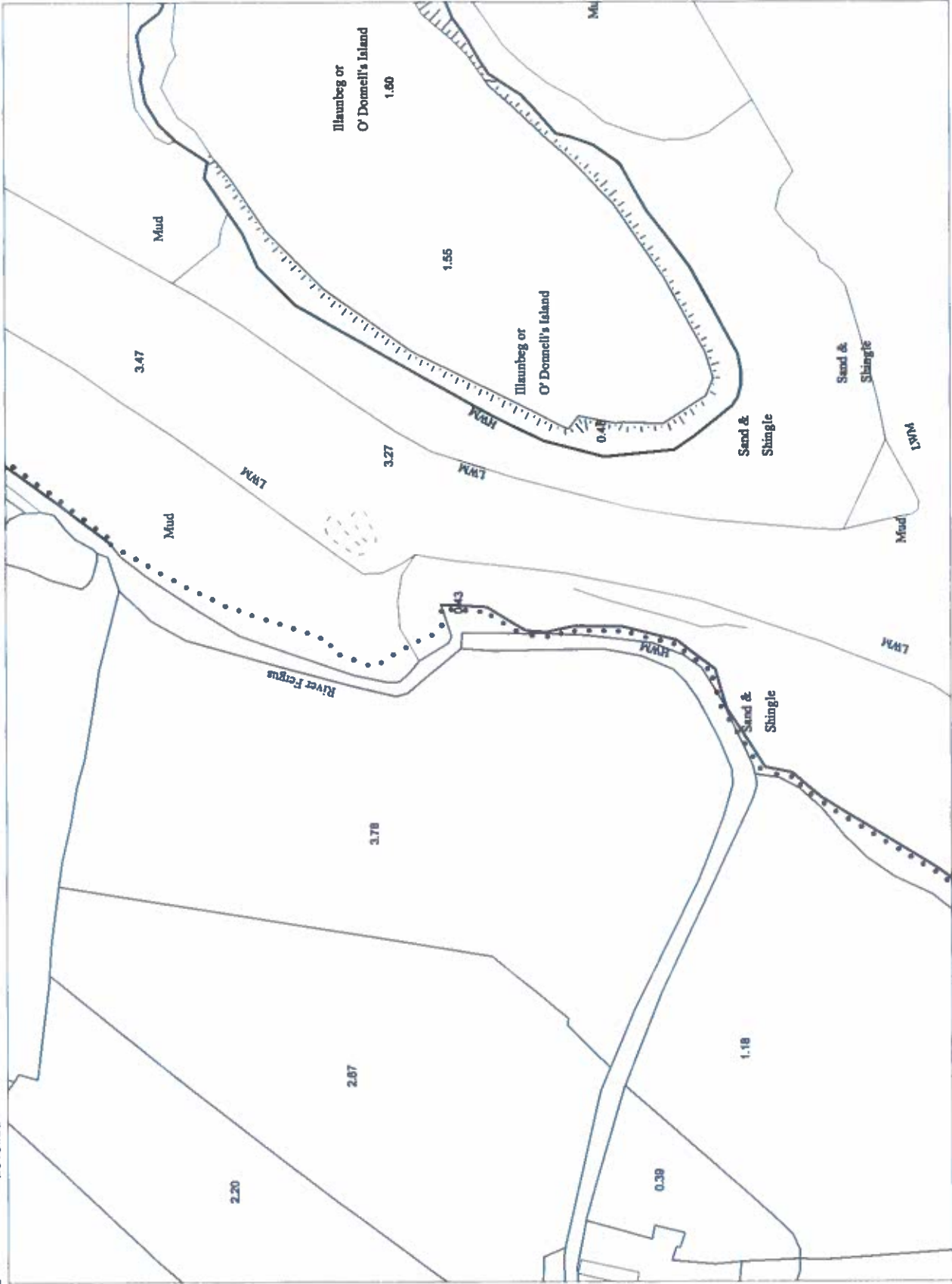
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Plot Ref. No. 19772007_2_1
Plot Date 12-FEB-2018



Scale:- 1:2,500
Scale:- 1:2,500

Appendix B

Photographs of Crovraghan Quay &

Cattle carrying crafts at quayside

4 Plates from www.irishwaterwayshistory.com showing Crovraghan Quay and boats





The large cattle lighter (bow view)

Views of existing slipway adjacent to quay at Crovraghan (December 2017)



View north from existing quay at Crovraghan (low tide) , showing small crafts moored

