Screening for Appropriate Assessment (AA)

Fort Dunree, Dunree Head, Buncrana, Co. Donegal

GARETH GRINDLE ASSOCIATES

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1. Introduction

1.1 Fort Dunree at Dunree Head, Buncrana, Co. Donegal is proposed for comprehensive redevelopment to provide a tourism landscape and attractions site. This report provides the screening for Appropriate Assessment (AA). Ecological Impact Assessment (EcIA) is provided under separate cover.[1]

1.2 Article 6(3) of the Habitats Directive has established an obligation to put concern for the integrity of the Natura 2000 network of designated sites at the forefront of decision making. All plans and projects must be examined to determine the nature and significance of any impacts that may arise – consent may only be granted once it has been ascertained that the integrity of the Natura 2000 network will not be compromised. Assessment pursuant to Article 6(3) of the Habitats Directive has a narrow focus; it is protection-led and concerned exclusively with the integrity of the Natura 2000 network. Where any design or implementation information is missing, or where any scientific uncertainty remains, the precautionary principle requires that the protection of the Natura 2000 sites is prioritised.

1.3 It is the responsibility of the competent authority to undertake the formal screening for AA (or ensure that it undertaken satisfactorily), however, it is the responsibility of the proponent of the plan or project to provide all of the necessary information. The purpose of this report is to collate information and provide an analysis of the potential for adverse impacts on Natura 2000 sites (with respect to structure and function and conservation objectives), informed by the best scientific evidence available. Conclusions are presented to assist the competent authority, Donegal County Council, in carrying out the formal screening.

Statement of Authority

1.4 This report has been prepared by Mr Gareth Grindle B.Sc. (Hons.) M.Sc. L.L.M. M.I.Env.Sc. M.C.I.E.E.M. on behalf of the planning applicant.

1.5 Mr Grindle is the Principal of Gareth Grindle Associates (GGA). He holds an Honours degree in Environmental Science (B.Sc. (Hons.), University of Stirling, 2000), a Master of Science in Environmental Change (M.Sc., King's College, London 2001) and a Master of Laws in Environmental Law (L.L.M., Queen's University, Belfast 2014). He has over 20 years of professional experience in the public, private and voluntary sectors, including 5 years with the Northern Ireland Environment Agency (NIEA) and 10 years as a consultant and director at Corvus Consulting. He is a full member of the Chartered Institute of Ecology & Environmental Management (M.C.I.E.E.M.) and the Institution of Environmental Sciences (M.I.Env.Sc.), organisations requiring peer-review for membership and a high standard of professional conduct, and has recently been appointed to the panel of Specialist Consultants for *An Bord Pleanála*.

Terms of Use

1.6 This report is provided to the project design team headed by TMKM JV, and to our clients, Donegal County Council, for their exclusive use and reliance. Once marked *final,* this report can be disseminated and published as necessary, and can be relied upon by competent authorities for consenting, but cannot be used or relied upon by any party for anything other than the original intended purpose without the agreement and express written confirmation and consent of the author (no reliance can be placed on any report marked as *draft*).

1.7 This report has been prepared, with diligence and care, based upon the author's professional experience and understanding of current and pending legislation, case law, and best practice guidance. Neither GGA nor the author can be held responsible for any consequences which may arise

[1] *'Ecological Impact Assessment (EcIA): Fort Dunree, Dunree Head, Buncrana, Co. Donegal'* (GGA-2022-043-2 final v6, October 2023).

from changes to legislation etc. made after this report is marked *final* which may render its content or conclusions outdated or invalid.

Summary Conclusions

1.8 Screening has demonstrated that the construction/development and operation of the Fort Dunree Project will exert no appreciable influence on the site integrity of North Inishowen Coast SAC or any other Natura 2000 site. As significant adverse impacts on the Natura 2000 network are unlikely to occur, Appropriate Assessment (AA) is not required.

Resources & Information

1.9 Data and information were sourced from the author's research, site inspections and site surveys conducted between June 2022 and August 2023; proposed site layout and engineering drawings[2] and technical reports;[3] pre-application consultations and discussions with the design team and Donegal County Council; and various guidance/reference documents and online resources.

1.10 Information on Natura 2000 sites, their conservation objectives etc., and the status of EU protected habitats and species in Ireland (Article 17 reports), were obtained from NPWS (www.npws.ie). All sources are referenced within the text as appropriate.

1.11 This report and the accompanying EcIA are interrelated – for a full understanding of the overall ecological assessment of the project and the protection of ecological receptors during the construction and occupation phases the two reports must be read together.

Legislative Context

1.12 Much of Ireland's environmental legislation originates in international conventions but is primarily derived from EU law. The CMS or Bonn Convention,[4] a UNEP intergovernmental treaty concerned with the conservation of wildlife and habitats on a global scale, was adopted in 1979. Migratory species threatened with extinction are listed on Appendix I and migratory species that need or would significantly benefit from international co-operation are listed in Appendix II. Several agreements which aim to conserve specific taxa or populations have been concluded. The Berne Convention,[5] adopted in 1979 imposes legal obligations which require the protection of over 500 species of wild plants and over 1000 species of wild animals. The principal aims are to ensure the conservation and protection of species and their natural habitats (Appendices I and II); increase co-operation between contracting parties; and regulate exploitation, including migratory species (Appendix III). The European Community is a contracting party to both. Ireland is also a signatory to several other

[2] Drawing No. 75006-ZZZ-ZZ-ZZZ-DR-KXM-AR-PL000 *Location Map* (Keys and Monaghan Architects & Taylor McCartney Architects, August 2023). Drawing No. 75006-ZZZ-ZZ-ZZZ-DR-KXM-AR-PL001 *Overall Existing Site Plan* (Keys and Monaghan Architects & Taylor McCartney Architects, August 2023). Drawing No. 75006-ZZZ-ZZ-ZZZ-DR-KXM-AR-PL101 *Overall Proposed Site Plan* (Keys and Monaghan Architects & Taylor McCartney Architects, August 2023). Drawing Nos. 22130-DID-XX-XX-DR-C-5051-P03, 22130-DID-XX-XX-DR-C-5052-P03, 22130-DID-XX-XX-DR-C-5053-P03 & 22130-DID-XX-XX-DR-C-5054-P03 *Drainage Layout Sheets 1-4* (Design ID, July 2023). Drawing No. 7543-PH-SW-00-DR-L-1000 *Landscape Masterplan* (Park Hood Chartered Landscape Architects, July 2023). Drawing Nos. 7543-PH-SW-00-DR-L-1001, 7543-PH-SW-00-DR-L-1002, 7543-PH-SW-00-DR-L-1003, 7543-PH-SW-00-DR-L-1004, 7543-PH-SW-00-DR-L-1005 & 7543-PH-SW-00-DR-L-1006 *Landscape Softscape – Sheets 1-6* (Park Hood Chartered Landscape Architects, July 2023). Drawing No. 7543-PH-SW-00-DR-L-1007 *Landscape Softscape – Planting Schedule* (Park Hood Chartered Landscape Architects, August 2023). Drawing No. 75006-4-ZZ-ZZZ-DR-KXH-CE-PL002 *Proposed Access Road* (KH Chartered Engineers, March 2023). Drawing No. 75006-ZZZ-ZZ-ZZZ-DR-KXM-AR-PL501 *Construction Phasing & Compounds* (Keys and Monaghan Architects & Taylor McCartney Architects, August 2023).

[3] *'The Fort Dunree Project Design Statement'* (Keys and Monaghan Architects & Taylor McCartney Architects, August 2023). *'Planning Statement – Development by a Local Authority – The Fort Dunree Project, Co. Donegal'* (Turley, October 2023). *'Fort Dunree, Co. Donegal – Drainage and Water Supply Report'* (Design ID, August 2023). Tecsoil Site Assessment Ltd. memorandum re. Fort Dunree Tourism Project dated 16th August 2023. *'Fort Dunree, Co. Donegal Accessibility – Planning'* (Design ID, August 2023). *'Fort Dunree, Co. Donegal – Lower Fort – Lough Swilly Walkway – Planning'* (Design ID, August 2023). *'Outdoor Lighting Report'* (Lighting Reality, July 2023).

[4] The Convention on the Conservation of Migratory Species of Wild Animals (Bonn, Germany, 1979).

[5] The Convention on the Conservation of European Wildlife and Natural Habitats (Bern, Switzerland, 1979).

international conventions including OSPAR,[6] CITES,[7] the Ramsar Convention,[8] the UN Convention on Biological Diversity (CBD)[9] which seeks to promote the conservation and sustainable use of biological diversity, and the comprehensive strategy for sustainable development agreed at the same 1992 Earth Summit in Rio de Janeiro.

1.13 The most important legislation underpinning biodiversity and nature conservation in Ireland is the Wildlife Acts 1976 to 2018[10] and the European Communities (Birds and Natural Habitats) Regulations 2011-2015.[11] The early legislation provided a solid basis for species protection and pre-empted many requirements of later EU Directives. The Wildlife Acts established protection for certain species of wild flora and fauna identified on Schedules 3, 4 & 5 and provided for Natural Heritage Areas (NHA), the primary national designation for the protection of wildlife and natural habitats. A range of species including badger, otter, pine marten, red squirrel, hedgehog, stoat, pygmy shrew, hares, bats, deer, lizards, newts, frogs and toads receive protection. The means by which this protection is implemented in practice varies from species to species and by situation depending on the specific requirements of species ecology. Wildlife licenses are required in many situations. The Wildlife Act also provides for general and specific levels of protection for wild birds and fish. However, habitat and site protection measures remained relatively weak. In response to the ratification of various international conventions, treaties and agreements, the European Community adopted the Birds Directive[12] in 1979, followed by the Habitats Directive[13] in 1992 – the provide *inter alia* for the protection of certain species and habitats of species.

1.14 The Birds Directive details special measures to conserve wild birds, with an overall purpose of providing for the protection, management and control of all naturally occurring species through *inter alia* the identification of Special Protection Areas (SPA). The Habitats Directive covers habitats and non-avian species of fauna that are of nature conservation importance, in danger of disappearance, and for which the EC has particular responsibility given the proportion of their global range. The Habitats Directive requires the identification and protection of Special Areas of Conservation (SAC) for Annex I habitats and Annex II species. The Habitats Directive also provides for the establishment and protection of a coherent network of European protected areas known as *Natura 2000,* comprised of sites designated, or in the latter stages of designation, as SPA or SAC – the aim of *Natura 2000* is to aid the long-term survival of Europe's most valuable and threatened species and habitats. The directives are transposed in Ireland primarily by the consolidated Birds & Habitats Regulations.

Assessment pursuant to Articles 6(3) & 6(4) of the Habitats Directive

1.15 Article 6(3) of the Directive establishes the requirement for detailed prior, precautionary assessment of potential impacts on the integrity of the Natura 2000 network and establishes that national authorities shall agree to the plan or project only once it has been demonstrated that the integrity of any Natura 2000 site will not be compromised.

[6] The Convention for the Protection of the Marine Environment of the North-East Atlantic (Paris, France, 1992).

[7] The Convention on International Trade in Endangered Species of Wild Fauna and Flora (Washington D.C., USA, 1973)

[8] The Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar, Iran, 1971).

[9] The Convention of Biological Diversity (Rio de Janeiro, Brazil, 1992).

[10] The Wildlife Acts 1976 to 2018 is a collective citation for the Wildlife Act 1976 (no. 39 of 1976), Wildlife (Amendment) Act 2000 (no. 38 of 2000), Wildlife (Amendment) Act 2010 (no. 19 of 2010), Wildlife (Amendment) Act 2012 (no. 29 of 2012), Heritage Act 2018 (no. 15 of 2018), Part 3.

[11] The European Union (Natural Habitats) Regulations 1997 were amended and revised on several occasions before being consolidated as the European Communities (Birds and Natural Habitats) Regulations 2011 – these regulations were themselves updated and amended between 2011 & 2015.

[12] Council Directive 79/409/EEC on the conservation of wild birds (now codified as 2009/147/EC).

[13] Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora.

Article 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.

1.16 Article 6(4) then sets out the procedures for consenting plans or projects despite a negative assessment. Initially, an exhaustive examination of alternative options or solutions that achieve the desired objectives and outcomes without adverse impacts. Where adverse impacts cannot be excluded, derogation is only permitted in certain restricted circumstances, when specific conditions are met, and where the plan or project is considered to be of imperative overriding public interest.

1.17 Assessment pursuant to Article 6(3) & 6(4) of the Habitats Directive are dealt with generally in Part 5 (Regulations 42 & 43) of the transposing European Communities (Birds and Natural Habitats) Regulations, 2011. In so far as planning applications are concerned, by Part XAB of the Planning and Development Act 2000 as amended – Sections 177U & 117V provide as follows:

117U

(1) A screening for appropriate assessment [of a proposed development] shall be carried out by the competent authority to assess, in view of best scientific knowledge, if that [proposed development], individually or in combination with another plan or project is likely to have a significant effect on the European site.

[…]

(4) The competent authority shall determine that an appropriate assessment [of a proposed development] is required if it cannot be excluded, on the basis of objective information, that the [proposed development], individually or in combination with other plans or projects, will have a significant effect on a European site.

(5) The competent authority shall determine that an appropriate assessment [of a proposed development] is not required if it can be excluded, on the basis of objective information, that the [proposed development], individually or in combination with other plans or projects, will have a significant effect on a European site.

[…]

117V

[…]

(3) […] a competent authority shall […] give consent for proposed development only after having determined that the [proposed development] shall not adversely affect the integrity of a European site.

(4) […] consent for proposed development may be given in relation to a proposed development where a competent authority has made modifications or attached conditions to the consent where the authority is satisfied to do so having determined that the proposed development would not adversely affect the integrity of the European site if it is carried out in accordance with the consent and the modifications or conditions attaching thereto.

[…]

'People Over Wind'

1.18 In *People Over Wind and Peter Sweetman v Coillte Teoranta* (C-323/17), a reference from the Irish High Court for a preliminary ruling on the interpretation of Article 6(3) of the Habitats Directive, the CJEU ruled (April 2018) that it is not appropriate to take account of measures to avoid or reduce harmful effects on Natura 2000 sites at the screening stage. The CJEU interpreted 'mitigation' to mean *'… measures that are intended to avoid or reduce the harmful effects of the envisaged project on the site concerned…'* and took the view that were mitigation measures taken into account during screening this *'… presupposes that it is likely that the site is affected significantly and that, consequently, such an assessment should*

be carried out…'. The CJEU observed that, per the Directive, *'… a full and precise analysis of the measures capable of avoiding or reducing any significant effects … must be carried out not at the screening stage, but specifically at the stage of appropriate assessment'* noting that a full appropriate assessment would provide significantly more information on the adequacy of the proposed mitigation.

1.19 Article 6(3) must therefore be interpreted as meaning that, in considering the need for appropriate assessment, the only requirements are i) the plan or project is not necessary for the management of the Natura 2000 site; and ii) the plan or project must be likely to have a significant effect on the Natura 2000 site.

Natura Impact Statement (NIS)

1.20 The Planning and Development Act 2000, as amended, also sets out the scope and requirements of the Natura Impact Statement (NIS). Section 177T states [at 1(b)] that NIS *' […] means a statement, for the purposes of Article 6 of the Habitats Directive, of the implications of a proposed development, on its own or in combination with other plans or projects, for one or more than one European site, in view of the conservation objectives of the site or sites'* and [at (2)] *' […] shall include a report of a scientific examination of evidence and data, carried out by competent persons to identify and classify any implications for one or more than one European site in view of the conservation objectives of the site or sites.'*

Screening & Assessment Methodology

1.21 Screening and assessment are completed in accordance with primary Irish and European methodological guidelines, including:

- *'Assessment of plans and projects significantly affecting Natura 2000 sites, Methodological guidance on the provisions of Article 6 (3) and (4) of the Habitats Directive 92/43/EEC'* (EC Environment DG, 2002)
- *'Managing Natura 2000 Sites, The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC'* (EC Environment DG, 2000)
- *'Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities'* (DEHLG, 2009/10)
- *'Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities.'* (NPWS Circular NPW 1/10 & PSSP 2/10, 2010)
- *'Appropriate Assessment Screening for Development Management – OPR Practice Note PN01'* (Office of the Planning Regulator, 2021).
- *'Applications for approval for Local Authority Developments made to An Bord Pleanála under 177AE of the Planning and Development Act, 2000, as amended (Appropriate Assessment) – Guidelines for Local Authorities'* (An Bord Pleanála, 2013).

1.22 The broad methodology, consistent with legislation, is well-established. A four-staged approach is adopted, where the results at each stage determine the requirement and scope for the subsequent stage:

Stage 1 – Screening

- Stage 1 addresses the first two tests of Article 6(3) – whether a plan or project is directly connected to or necessary for the management of the Natura 2000 site, and whether a plan or project, alone or in combination with other plans and projects, is likely to have significant effects on the Natura 2000 site. The screening process identifies potentially implicated Natura 2000 sites and any impacts that are likely to arise, and determines whether or not these are likely to be significant, given the site's conservation objectives. Significance is assessed against key indicators such as habitat loss, habitat degradation/fragmentation, species disturbance/displacement/fragmentation, overall water and ecological quality etc.
- The highest levels of certainty, evidence and justification are required, and the precautionary principle must be applied – where significant adverse effects are likely, uncertain or unknown, or if the process becomes overly complicated, progression to the second stage is required. Following *People Over Wind*, mitigation cannot be taken into account.

Stage 2 – Appropriate Assessment (AA)

- AA is the detailed, scientific assessment that fulfils the primary test of Article 6(3) – that competent national authorities can consent to the plan or project only after having ascertained that it will not adversely affect the integrity of the Natura 2000 site. The likely significant impacts identified in Stage 1 are assessed alone and in combination with other plans or projects with respect to the structure and function of the Natura 2000 sites and published conservation objectives. Where adverse impacts are expected, the measures envisioned to avoid, reduce the significance or otherwise mitigate those impacts are also assessed.
- The purpose of AA is to identify and characterise any and all possible implications for the Natura 2000 sites and ensure that integrity will not be compromised. The assessment must produce certainty beyond all reasonable doubt – the highest levels of evidence and justification are required, and the precautionary principle must be applied.
- When seeking consent, the proponent of the plan or project is required to submit the Natura Impact Statement (NIS) – the report of the targeted scientific examination – which provides sufficient information and evidence to enable the competent authority to complete the formal AA.

1.23 The majority of plans and projects are either consented or abandoned following screening or AA. Stages 3 and 4 address the further assessment of plans or projects where significant impacts on the integrity of Natura 2000 sites cannot be excluded, as per Article 6(4). Stage 3 requires an exhaustive assessment of alternative methods of achieving the same objectives/outcomes while avoiding adverse impact. Stage 4 requires the design and assessment of compensatory measures for plans or projects which, despite a negative assessment, must progress for *imperative reasons of overriding public interest*.

1.24 The assessment of impacts on the Natura 2000 sites is conducted using the standard *source-receptor-pathway* model where, for direct or indirect impacts to occur, all elements of the mechanism must be in place and operational. The absence or removal of a source, the interruption of a pathway, or the protection of a receptor, warrants a conclusion that an impact mechanism is not operational. Similarly, the identification of a *source-pathway-receptor* mechanism does not automatically mean that significant effects will arise as significance depends on the characteristics of the source and pathway, and the sensitivity of the receptor, however after *People Over Wind,* the identification of an operational *source-pathway-receptor* mechanism confirms a risk of ecological harm and, in all likelihood, confirms that appropriate assessment is required. This is particularly so in the context of precautionary assessment – the precautionary principle[14] covers specific circumstances in which scientific evidence is insufficient, inconclusive, or uncertain and there are reasonable grounds for concern over harmful effects on the environment that may be inconsistent with established levels of protection.

[14] *'Communication from the Commission on the Precautionary Principle'* (European Commission, 2000).

2. Screening for Appropriate Assessment (AA)

Baseline Information

The Site & Surroundings

2.1 Fort Dunree is a large (c. 26ha)[15] coastal and upland site at Dunree Head on Lough Swilly, Inishowen, Co. Donegal. The site includes all of the buildings, structures, roads/paths and other infrastructure associated with the current uses (tourism, military museum, peace centre, public amenity) and the former, long-standing military uses (historically a Napoleonic fort, a strategic defensive position during WW1 and through WW2, and some use as a training facility until the 1980s). The site includes the adjacent lighthouse and curtilage, the surrounding heathlands, scrub and rough grasslands, and the and enclosing sea cliffs [Figure 1; Plates 1.1-1.6].

Figure 1: The Site in Local Context

Ecology

2.2 Baseline ecological conditions are set out in detail in the EcIA Report.[16] Vegetation comprises three broad habitat types – the dry heathland and acid grassland mosaic that dominates the elevated sections to the north and east, the overgrown scrub and non-native/ornamental complex that surrounds the developed areas to the south and west, and the rocky sea cliffs (both exposed and vegetated) around the coastal boundaries to the north and west. The site is dominated by these semi-natural habitats and vegetation complexes but long-standing development, and particularly the more recent history of partial disuse and abandonment, has interrupted the natural habitat transitions from

[15] The site comprises contiguous lands at Dunree Head owned/controlled by Donegal County Council, Commissioner of Irish Lights & Dunree Military Museum – the red-line boundary has been drawn to enclose the entire ownership rather than indicate the limits of proposed new development and redevelopment.

[16] *'Ecological Impact Assessment (EcIA): Fort Dunree, Dunree Head, Buncrana, Co. Donegal'* (GGA-2022-043-2 final v6, October 2023).

the rocky shore through exposed and vegetated sea cliffs to terrestrial dry acid grassland and upland dry heath. The composition of coastal and terrestrial habitats has been significantly altered in places, particularly close to the roads, carparks, paths, and buildings/structures, where the vegetation communities are dominated by non-native and ornamental plants (including some low and medium impact invasives) that have spread from former gardens and more recently landscaped areas.

Plate 2.1: The Site – typical view of the developed area taken from a walking path close to the High Fort [August 2023]

Plate 2.4: The Site – the typical view of the upper parts of the site and the main walking path to the High Fort [June 2022]

Plate 2.2: The Site – typical wider view of the lower parts of the site, taken from a walking path close to the High Fort [August 2023]

Plate 2.5: The Site – typical view of Lough Swilly taken from the summit at the High Fort [August 2023]

Plate 2.3: The Site – the Lower Fort and vegetated sea cliffs to Lough Swilly [August 2023]

Plate 2.6: The Site – typical view of rough grasslands and sea cliffs to Lough Swilly, taken from the Lower Fort [June 2022]

2.3 The site is bordered by similar upland habitat and rough grazing to the east and south and by Lough Swilly to the north and west, and retains strong physical and functional ecological connectivity with Lough Swilly and the wider rural and upland landscape, but this is an open and exposed coastal site with limited structurally diversity, very little woodland/tree cover, and no appreciable linear habitat network (hedgerows, stream corridors etc.). Native botanical diversity is reasonably high in places

but is much more limited in the areas affected by development where natural complexes are compromised by enrichment, encroachment, and other edge effects.

Hydrology & Hydrogeology

2.4 The site is within the is within the Lough Swilly surfacewater catchment, Hydrometric Area 39 of the North-Western River Basin District, the Owenerk_020 sub-basin and locally the Crana_SC_10 sub-catchment. The exclusion of the site from hydrological catchments associated with rivers and other watercourses suggests that the site drains directly to the adjacent Lough Swilly (a large sea inlet, originally a glacial fjord), confirming onsite observations. Lough Swilly (IE_NW_220_0000), a *high ecological status* coastal waterbody, achieved *good* status in the 2016-2021 WFD[17] monitoring cycle; the underlying Lough Swilly groundwater body (IEGBNI_NW_G_059), described as *poorly productive bedrock,* also achieved *good* status in the 2016-2021 cycle. Lough Swilly is under some pressure from agricultural runoff, urban runoff, and domestic wastewater, but the groundwater (IEGBNI_NW_G_059) and coastal (IE_NW_220_0000) waterbodies are both deemed to be *not at risk* of failing to meet WFD objectives. The site at Dunree Head is within an area where agricultural measures for sediment and phosphorous should be targeted but not within any area identified for any particular pollution risks.[18]

2.5 As is set out in the Drainage Report[19] and confirmed by site investigations undertaken by *Tecsoil,*[20] the site is underlain by the Slieve Tooey Quartzite Formation – a whiteish quartzite bedrock with pebble beds; multiple outcrops are present throughout the site and particularly as exposed sea cliffs along the coastal boundaries. The site is characterised by shallow peaty soils and poor subsoil percolation; groundwater vulnerability is classified as *extreme – rock at or near surface* but as noted by *Tecsoil,* the underlying shattered bedrock appears to provide good natural drainage. The areas proposed for development are at no significant risk from coastal flooding and the site as a whole is not at any significant risk from fluvial flooding – there are no streams or other surface watercourses within the site or nearby.

The Fort Dunree Project

2.6 The Fort Dunree Project aims to deliver a modern, creative, and holistic visitor experience and secure a sustainable future for this historic and unique site and create a landmark 'must see' attraction on the Wild Atlantic Way. The project seeks to retain the essential character and structure of the site as it is now, and as it was previously, and maintain the high environmental and landscape quality of the area through revitalized historic landscapes and structures, conservation of habitats and biodiversity, and new distinctive insertions that will enhance the existing infrastructure and visitor experience. As per the project objectives, annual visitor numbers are expected to grow from current 14,250 to 114,191 in ten years.

2.7 The proposals include new development and comprehensive redevelopment in places; improvements, renovations, and refurbishment in others; new and upgraded infrastructure and services; and landscaping where necessary. However, in general terms, new development and redevelopment is confined to previously-developed parts of the site [Figure 2c] – the surrounding and enclosing natural/semi-natural upland and coastal areas will be largely unaffected.

[17] Water Framework Directive – Directive 2000/60/EC, as amended by Directives 2008/105/EC, 2013/39/EU & 2014/101/EU is transposed in Ireland by the European Communities (Water Policy) Regulations 2003

[18] *'3rd Cycle Draft Lough Swilly Catchment Report (HA 39)'* (Catchment Science & Management Unit – Environmental Protection Agency (EPA), August 2021, v.1) & Environmental Protection Agency (EPA): https://gis.epa.ie/EPAMaps/Water

[19] '*Fort Dunree, Co. Donegal – Drainage and Water Supply Report'* (Design ID, August 2023).

[20] Tecsoil Site Assessment Ltd. memorandum re. Fort Dunree Tourism Project dated 16th August 2023.

2.8 The proposed development is formally described in the Planning Statement. For the purposes of ecological assessment and ease of reference the project proposals can be divided into discrete sub-projects, summarised as follows from information set out in the Design Statement, the Planning Statement, and various proposed layout and engineering drawings:

- High Fort / Redoubt
  - extensive refurbishment and restoration including new and reinstated pathways around the internal and external perimeters and repairs to the blockhouses/watchtowers;
  - significant restoration of the entrance pavilion including partial demolition of the non-original first floor structure and construction of a new viewing building and event space to include ground floor events space, first floor exhibition area, toilets, staff room, lift, external viewing platform and including the restoration of the existing stairs.
- High Guns
  - light-touch refurbishment focused on one underground ammunition store and one gun platform;
  - repairs to the steps, appropriate handrails, and guarding around the gun platform, light internal repairs, lighting and electricity, upgrades to the existing pathways.
- Lough Swilly Walkway (Lower Fort)
  - construction of an open cliff-top walkway (92m in length) fully accessible from the Lower Fort;
  - replacement of the existing drawbridge with ramped access;
  - materials variously concrete and perforated metal balustrade and flooring with a glass floor and balustrades in the central section;
  - existing galvanised balustrades to be removed and replaced where required with either glass infill panels or perforated metal balustrades;
  - the walkway does not overhang the cliff edges and does not project beyond high water mark;
  - the evolution of design and positioning is set out in the Design Statement and detailed design and construction methodology is set out in a dedicated report.[21]
- Lighthouse Walkway
  - construction of an open and fully accessible cliff-top projecting walkway (28m in length, including a 12m cantilevered section) with supporting steel structure below;
  - balustrade and flooring to be constructed of perforated metal or equivalent;
  - accessed from the existing cliff-top walking path to the north-east of the lighthouse;
  - the walkway does not project beyond high water mark;
  - the evolution of design and positioning is set out in the Design Statement.
- Lighthouse
  - repairs and upgrades to the existing lighthouse building, which has remained vacant for a number of years and fallen into disrepair, to preserve into the future – minimum intervention.
  - series of repairs to the existing fabric, roof replacement and electrical upgrades;
  - some soft landscaping within the curtilage.
- Car Park & Road Access
  - the car park is to be relocated closer to the site entrance allowing the green at the centre of the site to be reinstated;
  - the new location is predominantly hard-standing – this is a brownfield development – some demolition (tarmacadam, old foundations etc.), vegetation clearance, earthworks and re-profiling will be required;
  - the new car park will provide 110 spaces including – 11 accessible spaces, 5 EV charging spaces, 5 minibus/campervan spaces, 5 bus/coach spaces (including an accessible drop off point) & cycle parking;
  - minor carriageway widening and vegetation clearance works at the site entrance to achieve sight lines; etc.
  - patch repairs and upgrades to the internal access roads;
  - construction of a new access road (160m) from the Welcome Buildings to tie-in with the existing High

[21] *'Fort Dunree, Co. Donegal – Lower Fort – Lough Swilly Walkway – Planning'* (Design ID, August 2023).

Fort Access Road and 400mm widening of the High Fort Access Road (for the provision of a wheelchair-accessible EV bus mobility bus to transport visitors from the Welcome Buildings to the High Fort, Low Fort and Saldanha Suite;
    - the evolution of proposals and design are set out in the Design Statement.
- The Square
    - the area currently used as the car park is to be restored and landscaped to a green area, and re-purposed as an information and orientation space, a spill-out space from the cafeteria, and for general amenity;
    - soft landscaping including native vegetation, new surface materials, and interpretative displays etc.;
    - earthworks and re-profiling will be required – excess excavated and unused material from other aspects of development will be used as fill.
- Existing Buildings – Billet Buildings
    - aim to protect the last surviving corrugated-metal buildings, retaining as much of the existing fabric as possible, but it is not possible to restore all – strategy is to restore the worst affected buildings and stabilise the rest (to preserve for potential future restoration).
    - restoration of four metal clad billet buildings (structure refs. 7.01, 7.05, 17.01 & 18.01);
    - maintenance of nine billet buildings to a suitable safety standard (structure refs. 7.02, 7.03, 7.04, 7.06, 7.08, 7.09, 8, 10 & 19);
    - maintenance of four brick buildings (structure refs. 18.03, 26.04, 26.05 & 13) – involves removal of dangerous debris, fixing loose roof tiles, installation of doors to restrict access etc.;
    - removal of two billet building which have already collapsed (structure refs. 7.07 & 24.02);
    - full restoration of four brick buildings (structure refs. 5.01, 6.01, 20 & 29) – see below;
    - several buildings (structure refs. 3.16, 11, 12, 14 & 15) are not part of the project proposals – fencing or hoarding will be required to restrict access.
- Existing Buildings – Welcome Buildings & Cafeteria etc.
    - the four brick buildings that are to be fully restored (structure refs. 5.01, 6.01, 20 & 29) will be repurposed as follows:
    - two buildings (structure refs. 5.01 & 6.01) will function as Welcome Buildings to facilitate a ticket/pay station, souvenir shop, toilets, retail store, cleaning store & changing places facilities;
    - the existing cafeteria is to be upgraded and extended (structure ref. 29) with an enlarged area of external hard-standing;
    - the former gymnasium (structure ref. 20) will be made structurally sound and will continue to be used for storage by the Fort Dunree staff.
    - possible additional refurbishment of one further building (structure ref. 27.01) for staff accommodation.
- Existing Buildings – Blockhouses
    - upgrade of four blockhouses along with the two blockhouses at the High Fort (the five additional blockhouses at Dunree site are not part of the project proposals).
- Walkways/Trails & Accessibility
    - new connecting pathways and repairs to the existing network to include:
    - new pathway forming a looped walk from the lighthouse;
    - reinstated pathway to the High Fort (currently inaccessible to many due to topography);
    - new pathway connecting the Welcome Buildings to the existing High Fort Access Road;
    - new accessible routes to the Cafeteria, Lower Fort & Lough Swilly Walkway;
    - improved drop off zone outside the Saldanha Suite;
    - new accessible route to the Cafeteria and Lower Fort;
    - pathway for visitors arriving on foot or by cycle (to futureproof and promote sustainable transport – the proposed Buncrana to Carndonagh Greenway Project will run past Fort Dunree);
    - general repairs to the existing pathways and steps throughout the site and the provision of handrails.
- General Infrastructure – Drainage & Foul Disposal
    - new and upgraded infrastructure for surface drainage and foul disposal (see below for details).

- General Infrastructure – Lighting
  - new external amenity lighting is restricted to the lower part of the site and confined to the car park, the village road and the square, and follows responsible lighting practices;
  - all installations are 'dark skies' approved – low-level illumination, less than 5lux, directed downwards to avoid spillage etc.;
  - lighting will only be on when absolutely necessary and activated by motion sensors with an override for management control (lighting for the upper section of the car park will be on a separate circuit).
- General Infrastructure (anciliary)
  - ancillary works include mains water and electricity supplies, connections to services/utilities, toilet facilities, landscaping, fencing, signage & interpretation panels, general repairs to pathways and steps, provision of handrails, regrading of existing profiles, display of military artefacts etc.

2.9 A construction-phase drainage strategy is set out in the Drainage Report, an outline construction methodology for the Lough Swilly Walkway is provided,[22] and the locations of construction compounds to serve the various sub-projects have been identified.[23]

2.10 The ecological assessments for the various sub-projects, and for the project as a whole, are set out in the EcIA Report. Most of the works associated with the project require planning permission and are the subject of a planning application under Part 8 of the Planning and Development Regulations 2001, as amended (for determination by DCC). Certain minor aspects of the project, e.g. repairs to existing buildings on an exactly 'like-for-like' basis, do not required planning permission.

Surface Water Drainage & Foul Disposal

2.11 The following is summarised from relevant technical reports and engineering drawings provided with the planning application.[24]

Surface Drainage

2.12 Currently, surface water is collected and moved across the developed parts of the site by a series of gullies, ditches, and pipework to discharges directly to Lough Swilly. Channels and ditches draining most of the existing trails across the site have been recorded, again routing surface water towards Lough Swilly. The existing underground gravity infrastructure and trenches will be refurbished and re-used where possible (e.g. where existing buildings are redeveloped) and outfall drains will use the existing drains or follow the same route. Any existing sewers, drains or pipework that is superfluous and will not be incorporated into the new/refurbished infrastructure will be fully decommissioned to prevent the creation of preferential pathways.

2.13 The SuDS[25] approach to surfacewater management and disposal seeks to emulate the natural drainage behaviour of surface water from this clifftop site by overland flows and discharge to Lough Swilly, at pre-development rates and volumes, utilising a variety of common drainage systems that are regularly used in development sites. The existing network of roads, paths and trails will continue to drain as established – upgrades and extensions will aim to replicate the natural drainage behaviour. Surface drainage is considered to be 'clean water' and is routinely discharged directly to coastal waterbodies such as Lough Swilly, which already receives surface drainage arising from much of northern Donegal, including the Fort Dunree site.

[22] *'Fort Dunree, Co. Donegal – Lower Fort – Lough Swilly Walkway – Planning'* (Design ID, August 2023).

[23] Drawing No. 75006-ZZZ-ZZ-ZZZ-DR-KXM-AR-PL501 *Construction Phasing & Compounds* (Keys and Monaghan Architects & Taylor McCartney Architects, August 2023).

[24] *'Fort Dunree, Co. Donegal – Drainage and Water Supply Report'* (Design ID, August 2023). Tecsoil Site Assessment Ltd. memorandum re. Fort Dunree Tourism Project dated 16th August 2023. Drawing Nos. 22130-DID-XX-XX-DR-C-5051-P03, 22130-DID-XX-XX-DR-C-5052-P03, 22130-DID-XX-XX-DR-C-5053-P03 & 22130-DID-XX-XX-DR-C-5054-P03 *Drainage Layout Sheets 1 – 4* (Design ID, July 2023).

[25] *'The SuDS Manual'* (Construction Industry Research and Information Association (CIRIA), 2015, Report No. C753).

2.14 A SuDS attenuation system is proposed for the new car park, using permeable pavement to re-establish a more natural hydrological balance by increasing the time of concentration and reducing peak runoff rates – the permeable pavements trap precipitation and release slowly, reducing peak rates and preventing large, fast pulses. The infrastructure has been designed to cope with a 1–100–year rainfall event, with an appropriate uplift to account for climate change. In this case, as infiltration is not possible, a tanked system will be used with a flow control device.

2.15 The subbase of the parking areas will be formed with crushed clean stone and wrapped with impermeable geotextiles – this approach also breaks down hydrocarbons and is used in lieu of a petrol interceptor (hydrocarbon contamination is expected to be insignificant and will decrease with time as more electric vehicles come into use).

2.16 Surface drainage at the Lighthouse is entirely separate and, it is assumed, direct to Lough Swilly. No new infrastructure or alterations are proposed.

Foul Disposal

2.17 Currently, there are at least two sewage plants within the site – an operational package treatment plant (*FM Environmental, Model 3 STD*) located to the south of the cafeteria which deals with all foul effluents generated from the various occupied/in-use buildings in the lower part of the site; and a disused/obsolete septic tank at the high fort. It has been determined that the capacity of the existing operational infrastructure is not sufficient for projected/expected increases in annual visitor numbers.

2.18 It is proposed that 2 no. new package treatment plants will be installed to and ensure compliance with Donegal Country Council emissions requirements. The new treatment plants will be installed in the same locations as the existing infrastructure [Figure 2c] to minimise excavation and surface disturbance – most of the site (i.e. all except the facilities at the High Fort) will be routed to a new treatment plant close to the southern corner of the site; the facilities at the High Fort will fort will gravitate to a separate treatment plant a short distance to the north. All foul effluents will be collected and moved in systems entirely separate from the surface water drainage systems and again any existing sewers, drains or pipework that is superfluous and will not be incorporated into the new/refurbished infrastructure will be fully decommissioned to prevent the creation of preferential pathways.

2.19 Due to the extreme groundwater vulnerability and the lack of infiltration at both locations (and across the site), traditional drainage field soakaways are inappropriate. It is proposed therefore that material for the disposal of effluents will be imported. At both plants, cleaned effluents will be pumped intermittently from the pumping chamber to mono-grade raised sand polishing filters enclosed by impermeable panels and placed on slopes directing effluent away from the treatment plants and developed areas more generally – as is set out in detail in the Drainage Report, this approach meets with Environmental Protection Agency (EPA) and Donegal County Council (DCC) standards, but Licences to Discharge will be required from DCC Environment Section.

2.20 The existing treatment plant will be decommissioned and removed prior to the connection and commissioning of the new infrastructure; all existing connections will be diverted to the new plant and any potentially contaminated land within the drainage field will be remediated or disposed of by a competent and licensed contractor. As the existing septic tank is currently not in use it will be removed to facilitate the installation of the new treatment plant. In both cases and surrounding disturbed ground will be made good.

2.21 It seems likely that there is also a septic tank at the Lighthouse which will be recommissioned to allow for the occasional use of the toilet facilities. No new infrastructure or significant alterations (other than necessary to recommission) are proposed.

Recommendations

2.22 It is noted that the drainage layout drawings have notation labelled as *'existing foul water system to be re-purposed as a surface water system'* – it is recommended that instances where this will occur are clarified and a methodology for the safe disconnection, cleaning, and repurposing of any such sewers established.

2.23 As the current arrangements for the Lighthouse are not known with any certainty it is recommended that existing arrangements are established and that firm operational proposals are brought forward.

Natura 2000 Sites

2.24 The site, for the most part, is not within or adjacent to any Natura 2000 site. North Inishowen Coast SAC lies to the north and east, just beyond the eastern boundary, and overlapping a small section of the site in the northern corner [Figure 2a]. The coast and waters of Lough Swilly are subject to several Natura 2000 designations – Ballyhoorisky Point to Fanad Head SAC, Horn Head to Fanad Head SPA, Fanad Head SPA, Lough Swilly SAC & Lough Swilly SPA [Figure 2b]. It is appropriate to screen the Fort Dunree Project for the likelihood of significant adverse impacts on these Natura 2000 sites, but it is inconceivable that the project could have any appreciable influence on the site integrity of any other Natura 2000 sites.

North Inishowen Coast SAC

2.25 North Inishowen Coast SAC (IE001398) was classified in June 1999 and last updated in October 2020. The designated area covers approximately 7,066ha (51% marine area) in a continuous band around the Inishowen coast from Crummies Bay in the west to Malin Head in the north and down to Inishowen Head in the east. The site encompasses a wide variety of coastal habitats including high rocky cliffs, offshore islands, sand dunes, saltmarsh, a large intertidal bay, rocky, shingle and sand beaches, and on-shore heathland.

2.26 North Inishowen Coast was classified SAC for the following habitats listed on Annex I of the Habitats Directive: [1140] Tidal Mudflats and Sandflats, *[1220] Perennial Vegetation of Stony Banks, [1230] Vegetated Sea Cliffs, [2130] Fixed Dunes (Grey Dunes)* (a priority habitat), *[21A0] Machairs* (a priority habitat) and *[4030] Dry Heath*; and for the following species listed on Annex II of the Habitats Directive: *[1014] Narrow-mouthed Whorl Snail (Vertigo angustior)* & *[1355] Otter (Lutra lutra)*.

2.27 Although not classified as SPA, the following (non-SAC feature) species referred to in Article 4 of the Birds Directive are present: *[A200] Razorbill Alca torda, [A050] Wigeon Anas Penelope, [A053] Mallard Anas platyrhynchos, [A046] Light-bellied Brent Goose Branta bernicla hrota, [A045] Barnacle Goose Branta leucopsis, [A149] Dunlin Calidris alpina, [A137] Ringed Plover Charadrius hiaticula, [A103] Peregrine falcon Falco peregrinus, [A009] Northern fulmar Fulmarus glacialis, [A153] Common snipe Gallinago gallinago, [A130] Oystercatcher Haematopus ostralegus, [A182] Common Gull Larus canus, [A070] Goosander Mergus merganser, [A160] Curlew Numenius arquata, [A017] Great cormorant Phalacrocorax carbo, [A346] Red-billed chough Pyrrhocorax pyrrhocorax, [A188] Black-legged kittiwake Rissa tridactyla, [A048] Shelduck Tadorna tadorna, [A164] Greenshank Tringa nebularia, [A162] Redshank Tringa totanus, [A199] Guillemot Uria aalge* & *[A142] Lapwing Vanellus vanellus.* Additionally, the following (non-SAC feature) species are noted in the designation documentation as being present and of conservation importance: Black guillemot *Cepphus grylle*, Red grouse *Lagopus lagopus*, Herring Gull *Larus argentatus*, Great black-backed gull *Larus marinus*, European shag *Phalacrocorax aristotelis*, Common eider *Somateria mollissima*, Scots lovage *Ligusticum scoticum*, Oysterplant *Mertensia maritima*, Purple Saxifrage *Saxifraga oppositifolia*, Moss campion *Silene acaulis*, Spring vetch *Vicia lathyroides* & Sea kale *Crambe maritima*.

Figure 2a: Natura 2000 Sites - North Inishowen Coast SAC

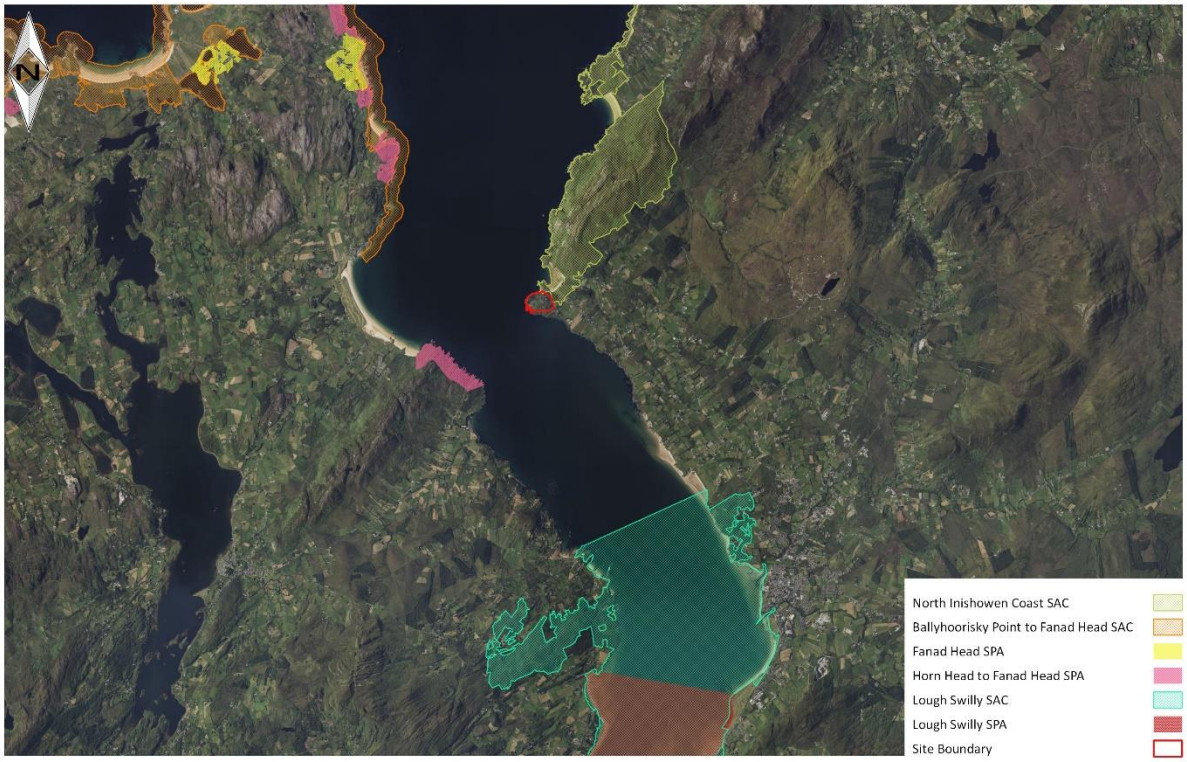
Plate 2.7: North Inishowen Coast SAC – taken from the High Fort looking north over the SAC [August 2023]

Plate 2.9: North Inishowen Coast SAC – taken from the coastal cliff path looking north into the SAC [August 2023]

Plate 2.8: North Inishowen Coast SAC – taken from the High Fort looking north into the SAC (foreground undesignated) [August 2023]

Plate 2.10: North Inishowen Coast SAC – taken from the site looking north towards the SAC (foreground undesignated) [August 2023]

Figure 2b: Natura 2000 Sites



Ballyhoorisky Point to Fanad Head SAC

2.28 Ballyhoorisky Point to Fanad Head SAC (001975) was classified in August 1999 and last updated in October 2020. The designated area covers approximately 1,226ha (59% marine area). This large coastal site consists of a series of bays, with rocky headlands and steep cliffs.

2.29 Ballyhoorisky Point to Fanad Head was classified SAC for the following habitats listed on Annex I of the Habitats Directive: *[1220] Perennial Vegetation of Stony Banks, [1230] Vegetated Sea Cliffs, [3130] Oligotrophic to Mesotrophic Standing Waters* and *[3140] Hard Water Lakes*; and for the following species listed on Annex II of the Habitats *Directive: [1014] Narrow-mouthed Whorl Snail (Vertigo angustior)* and *[1833] Slender Naiad (Najas flexilis)*.

2.30 Although not classified as SPA, the following (non-SAC feature) species referred to in Article 4 of the Birds Directive are present: *[A144] Sanderling Calidris alba, [A137] Ringed Plover Charadrius hiaticula, [A064] Long-tailed Duck Clangula hyemalis, [A103] Peregrine falcon Falco peregrinus, [A009] Northern fulmar Fulmarus glacialis, [A130] Oystercatcher Haematopus ostralegus* & *[A346] Red-billed chough Pyrrhocorax pyrrhocorax.* Additionally, the following (non-SAC feature) species are noted in the designation documentation as being present and of conservation importance: Irish hare Lepus timidus hibernicus, Scots lovage *Ligusticum scoticum*, Few-branched Stonewort *Nitella spanioclema*, Pillwort *Pilularia globulifera*, Common frog *Rana temporaria* & Eider *Somateria mollissima*.

Horn Head to Fanad Head SPA

2.31 Horn Head to Fanad Head SPA (IE0004194) was classified in July 2009 and last updated in October 2020. The designated area covers approximately 2,385ha (29% marine area), comprising several sections of the north Co. Donegal coastline over 70km eastwards from Dooros Point, south-west of Horn Head, to just south of Saldanha Head, south of Fanad Head. The site includes high coast areas and sea cliffs, lands adjacent to the cliff edge and the sand dunes and lake at Dunfanaghy/Rinclevan.

2.32 Horn Head to Fanad Head was classified SPA for the following species referred to in Article 4 of the Birds Directive: *[A168] Common Sandpiper Actitis hypoleucos, [A200] Razorbill Alca torda, [A052] Teal Anas cracca, [A053] Mallard Anas platyrhynchos, [A395] White-fronted Goose (Greenland subspecies) Anser albifrons flavirostris, [A059] Pochard Aythya farina, [A061] Tufted Duck Aythya fuligula, [A045] Barnacle Goose Branta leucopsis, [A149] Dunlin Calidris alpina, [A038] Whooper Swan Cygnus cygnus, [A103] Peregrine falcon Falco peregrinus, [A204] Puffin Fratercula arctica, [A125] Coot Fulica atra, [A009] Northern fulmar Fulmarus glacialis, [A153] Common snipe Gallinago gallinago, [A184] Herring Gull Larus argentatus, [A018] Shag Phalacrocorax aristotelis, [A017] Great cormorant Phalacrocorax carbo, [A346] Red-billed chough Pyrrhocorax pyrrhocorax, [A188] Black-legged kittiwake Rissa tridactyla, [A199] Guillemot Uria aalge & [A142] Lapwing Vanellus vanellus.* The following (non-SPA feature) species are noted in the designation as being present and of conservation importance: Black Guillemot *Cepphus grylle* & Mute Swan *Cygnus olor.*

Fanad Head SPA

2.33 Fanad Head SPA (IE0004148) was classified in May 2011 and last updated in September 2018. The designated area covers approximately 136ha of extensively managed grassland on the Fanad Head peninsula. The site is classified SPA for *[A122] Corncrake (Crex crex)*, a species listed on Annex I of the Birds Directive.

Lough Swilly SAC

2.34 Lough Swilly SAC (IE0002287) was classified in August 2000 and last updated in October 2020. The designated area covers approximately 9,298ha (88% marine area). Lough Swilly is a long sea lough – the SAC covers the inner part and is estuarine in nature with shallow water and intertidal sand and mudflats being the dominant habitats. The main rivers flowing into the site are the Swilly, Lennan and Crana; at low tide, extensive sand and mudflats are exposed, especially at the mouths of the Swilly and Lennan.

2.35 Lough Swilly was classified SAC for the following habitats listed on Annex I of the Habitats Directive: *[1130] Estuaries, [1150] Coastal Lagoons* (a priority habitat), *[1320] Spartina swards, [1330] Atlantic Salt Meadows, [6410] Molinia Meadows* & *[91A0] Old Oak Woodlands*; and for *[1355] Otter (Lutra lutra)*, species listed on Annex II of the Habitats Directive.

2.36 The SAC is also classified as SPA (although Lough Swilly SPA is much more extensive); the following species referred to in Article 4 of the Birds Directive are present: *[A056] Shoveler Anas clypeata, [A052] Teal Anas cracca, [A053] Mallard Anas platyrhynchos, [A395] White-fronted Goose (Greenland subspecies) Anser albifrons flavirostris, [A043] Greylag Goose Anser anser, [A169] Turnstone Arenaria interpres, [A061] Tufted Duck Aythya fuligula, [A062] Scaup Aythya marila, [A046] Brent Goose Branta bernicla, [A067] Goldeneye Bucephala clangula, [A149] Dunlin Calidris alpina, [A143] Knot Calidris canutus, [A137] Ringed Plover Charadrius hiaticula, [A038] Whooper Swan Cygnus cygnus, [A125] Coot Fulica atra, [A003] Great Northern Diver Gavia immer, [A130] Oystercatcher Haematopus ostralegus, [A157] Bar-tailed Godwit Limosa lapponica, [A156] Black-tailed Godwit Limosa limosa, [A070] Goosander Mergus merganser, [A160] Curlew Numenius arquata, [A017] Great cormorant Phalacrocorax carbo, [A140] Golden Plover Pluvialis apricaria, [A141] Grey Plover Pluvialis squatarola, [A007] Slavonian Grebe Podiceps auritus, [A005] Great Crested Grebe Podiceps cristatus, [A048] Shelduck Tadorna tadorna, [A164] Greenshank Tringa nebularia, [A162] Redshank Tringa totanus* & *[A142] Lapwing Vanellus vanellus.* Additionally, the following (non-SAC feature) species are noted in the designation documentation as being present and of conservation importance: Grey Heron *Ardea cinerea*, Spaghetti algae *Chaetomorpha linum*, *Chara canescens*, *Conopeum seurati*, *Cordyllophora caspia*, Mute Swan *Cygnus olor*, *Jaera ischiosetosa, Jaera nordmanni*, Viviparous lizard *Lacerta vivipara*, *Lekanesphaera hookeri*, Irish hare *Lepus timidus hibernicus*, Irish stoat *Mustela erminea hibernica*, Leisler's bat *Ncytalus leisleri, Neomysis integer, Palaemonetes varians*, Common frog *Rana temporaria,* Beaked tasselweed *Ruppia maritima*, Brown trout *Salmo trutta, Sigara concinna* & *Sigara stagnalis*.

Lough Swilly SPA

2.37 Lough Swilly SPA (IE0004075) was classified in June 2004 and last updated in October 2020. The designated area covers approximately 8,560ha (77% marine area). Lough Swilly is a long sea lough – the SPA comprises the inner part of Lough Swilly, the adjacent Inch Lough, a series of improved pasture and arable fields on the south side of the lough that are of importance to geese and swans, and sections of the estuaries of the River Swilly, the River Leannan, and the Isle Burn; the predominant habitat is a series of extensive sand and mud flats which are exposed at low tide.

2.38 Lough Swilly was classified SPA for the following species referred to in Article 4 of the Birds Directive: *[A056] Shoveler Anas clypeata, [A052] Teal Anas cracca, [A050] Wigeon Anas Penelope, [A053] Mallard Anas platyrhynchos, [A395] White-fronted Goose (Greenland subspecies) Anser albifrons flavirostris, [A043] Greylag Goose Anser anser, [A028] Grey Heron Ardea cinerea, [A169] Turnstone Arenaria interpres, [A061] Tufted Duck Aythya fuligula, [A062] Scaup Aythya marila, [A046] Brent Goose Branta bernicla, [A067] Goldeneye Bucephala clangula, [A149] Dunlin Calidris alpina, [A143] Knot Calidris canutus, [A137] Ringed Plover Charadrius hiaticula, [A038] Whooper Swan Cygnus cygnus, [A125] Coot Fulica atra, [A003] Great Northern Diver Gavia immer, [A130] Oystercatcher Haematopus ostralegus, [A182] Common Gull Larus canus, [A179] Black-headed Gull Larus ridibundus, [A157] Bar-tailed Godwit Limosa lapponica, [A156] Black-tailed Godwit Limosa limosa, [A069] Red-breasted Merganser Mergus serrator, [A160] Curlew Numenius arquata, [A017] Great cormorant Phalacrocorax carbo, [A140] Golden Plover Pluvialis apricaria, [A005] Great Crested Grebe Podiceps cristatus, [A193] Common Tern Sterna Hirundo, [A191] Sandwich Tern Sterna sandvicensis, [A048] Shelduck Tadorna tadorna, [A164] Greenshank Tringa nebularia, [A162] Redshank Tringa totanus* & *[A142] Lapwing Vanellus vanellus.* Additionally, the following (non-SPA feature) species are noted in the designation documentation as being present and of conservation importance: *Chara canescens*, Mute Swan *Cygnus olor,* Herring Gull *Larus argentatus,* Irish hare *Lepus timidus hibernicus* & Little Grebe *Tachybaptus ruficollis*.

Screening for Significant Effects on Natura 2000 Sites

2.39 Screening establishes whether or not the project is likely to have significant adverse effects on Natura 2000 sites. Where significant adverse effects are indicated or where there is any doubt or uncertainty about the risk of significant adverse effects, the assessment must proceed to the second stage; mitigation is not taken into account.

2.40 The assessment of direct and indirect impacts on Natura 2000 sites is conducted using the standard *source-pathway-receptor* model where, for an impact to occur, all three elements of the mechanism must be present and operational.

2.41 As per Regulation 42 of the Birds and Natural Habitats Regulations, Section 177U of the Planning and Development Act 2000, and after *People Over Wind,* Appropriate Assessment (AA) is required in all cases where:

i) the project is not necessary for the management of the Natura 2000 site; and
ii) the project is likely to have a significant effect on the Natura 2000 site.

Conservation Objectives & Favourable Conservation Status

2.42 The purpose of designating and managing Natura 2000 sites is to maintain or restore the *favourable conservation status* of the habitats and species for which the sites are notified. The conservation objectives for Natura 2000 sites are sets of targets that must be met to maintain or restore *favourable conservation status* for each qualifying feature and thus preserve the integrity of the site as a whole. A series of component objectives and associated attributes and measures are set out for each site selection feature – these are a set of targets that must be met to maintain or restore *favourable*

conservation status and preserve site integrity and, forming the basis for condition assessment, are used to determine whether or not a feature is in *favourable condition*, defined as *'the target condition for an interest feature in terms of the abundance, distribution and/or quality of that feature within the site*.'[26] Achieving *favourable condition* for individual features on individual sites contributes to achieving *favourable conservation status* at national and biogeographic levels and across the Natura 2000 network.

2.43 The Habitats Directive defines *favourable conservation status* for habitats and species [at Article 1]:

> *The conservation status of a natural habitat is the sum of the influences acting on it and its typical species that may affect its long-term natural distribution, structure and functions as well as the long-term survival of its typical species. The conservation status of a natural habitat will be taken as favourable when:*
>
> - *its natural range, and area it covers within that range, are stable or increasing, and*
> - *the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and*
> - *the conservation status of its typical species is favourable.*
>
> *The conservation status of a species is the sum of the influences acting on the species that may affect the long-term distribution and abundance of its populations. The conservation status will be taken as 'favourable' when:*
>
> - *population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and*
> - *the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and*
> - *there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.*

2.44 The critical consideration is whether the implications of any activities, considered individually and in combination with other plans or projects, will affect the site's ability to meet its conservation objectives and maintain or achieve *favourable conservation status* (EC, 2012).

2.45 For the purposes of screening, general conservation objective encapsulating an overall aim of maintaining or restoring the *favourable conservation status* of the various Natura 2000 sites and qualifying feature interest.

2.46 Although habitats are not site selection features for SPAs, they are essential to the conservation of qualifying species interest and screening/assessment is more rigorous and straightforward if habitats are treated as if they were.

North Inishowen Coast SAC

2.47 North Inishowen Coast SAC[27] lies to the north and east of the site. The designated area is just beyond the eastern site boundary and overlaps a small section in the northern corner. The site therefore shares direct physical and habitat connectivity with North Inishowen Coast SAC.

2.48 Much of the terrestrial area of the extensive North Inishowen Coast SAC is dominated by *[4030] Dry Heath* which is superficially similar to the heathland habitat found in the elevated northern and eastern sections of the Fort Dunree site. However, Dunree Head was excluded from North Inishowen Coast SAC (likely due to the historical military use) and the heathlands are undesignated. The heathlands are discontinuous, present as a mosaic with dry acid grassland, and the complex is significantly

[26] *'Commission Note on Setting Conservation Objectives for Natura 2000 Sites'* (European Commission, Doc. Hab.12-04/06, November 2012)

[27] *'Conservation Objectives: North Inishowen Coast SAC 002012'* (National Parks and Wildlife Service (NPWS), 2014) along with *'Site Synopsis – North Inishowen Coast SAC'* (National Parks and Wildlife Service (NPWS), 2014), both retrieved from https://www.npws.ie/protected-sites, and Natura 2000 – Standard Data Form – IE0002012 North Inishowen Coast SAC, retrieved from https://natura2000.eea.europa.eu/, are reproduced at Annex A.

intruded by extensive stands of scrub and dense bracken in places and suffers from considerable degradation in both structure and species composition as a direct result of edge effects and other influences from long-standing, distributed development. The heathland/grassland mosaic that dominates the eastern and northern sections of Dunree Head does not meet the criteria for identification as the Annex I habitat type *[4030] Dry Heath* and is not of sufficient quality to be included within the SAC.

2.49 The heathland/grassland mosaic within the site is contiguous with SAC heathlands on the northern and eastern slopes of Dunree Head (themselves isolated from the much more extensive heathlands to the north of Crummies Bay) and provides a valuable buffering function. As is set out in greater detail in the EcIA, no new development is proposed in close proximity to any area designated within North Inishowen Coast SAC [Figures 2c & 2d], the heathland/grassland mosaic will be largely unaffected by new development, and the buffering function of the heathland/grassland mosaic which dominates the lands between the SAC and new development will not be compromised. No drainage from the site will be directed towards the SAC.

2.50 The northern and western (i.e. seaward) boundaries of the site follow the rocky sea cliffs but again the natural transitions from the rocky shore through the exposed and vegetated sea cliffs has been interrupted, and the composition of the vegetation communities significantly altered in places, to the extent that these cliffs do not qualify as the Annex I habitat type *[1230] Vegetated Sea Cliffs* and do not merit inclusion in the SAC. In any case, as is set out in the EcIA, the impact of the project on the sea cliffs is minimal.

2.51 The mobile SAC feature species *[1355] Otter (Lutra lutra)* may well be active within and around the site but, as is set out in the EcIA, regular activity is likely confined to the lower sections of the sea cliffs and near-shore waters; no field evidence of otter activity was found at or close to any areas of the site proposed for new development or redevelopment.

Figure 2c: The Site, Proposed Development Locations & North Inishowen Coast SAC

Figure 2d: The Site, Proposed Development & North Inishowen Coast SAC

2.52 Otherwise, the Fort Dunree site and the immediately adjoining areas support no habitats that resemble [1140] Tidal Mudflats and Sandflats, *[1220] Perennial Vegetation of Stony Banks, [2130] Fixed Dunes (Grey Dunes)* or *[21A0] Machairs* and provide no habitat suitable for *[1014] Narrow-mouthed Whorl Snail (Vertigo angustior).*

2.53 As such, significant adverse impacts on North Inishowen Coast SAC are unlikely to occur as a result of the project and can be excluded/screened-out.

Natura 2000 Sites associated with Lough Swilly

2.54 Given the absorptive, dispersal, and dilution capacity of Lough Swilly, the dynamic coastal/marine receiving waterbody, and the significant separation distances over open water, hydrological connectivity with Ballyhoorisky Point to Fanad Head SAC, Horn Head to Fanad Head SPA, Lough Swilly SAC & Lough Swilly SPA must be considered to be weak/tenuous, in so far as adverse impacts on coastal and terrestrial habitats and terrestrial species may arise as a result of releases of contaminated effluents and surfacewater to Lough Swilly, and theoretical pathways are considered to be non-operational in practice. Discharges from the surface drainage systems to Lough Swilly will be controlled, as is set out in detail above, and any existing sewers, drains or pipework that is superfluous and will not be incorporated into the new/refurbished infrastructure will be fully decommissioned to prevent the creation of preferential pathways. A couple of non-significant issues requiring clarification have been identified.

2.55 As such significant adverse (indirect) impacts on Ballyhoorisky Point to Fanad Head SAC, Horn Head to Fanad Head SPA, Lough Swilly SAC & Lough Swilly SPA are unlikely to occur as a result of the project and can be excluded/screened-out.

Horn Head to Fanad Head SPA & Lough Swilly SPA – Avifauna

2.56 The avifauna assemblage noted as present within North Inishowen Coast SAC, but not as qualifying interest, are listed amongst the qualifying interest for the nearby Horn Head to Fanad Head SPA[28] and Lough Swilly SPA. Qualifying species may be present within and around the Fort Dunree site, particularly along the rocky coast and on or over the open water of Lough Swilly. However, the SPA avifauna assemblage likely or potentially present at Dunree Head will be limited by habitat preference/suitability and availability (waders and other predominantly estuarine or shore birds are very unlikely to be present), and likely comprises:

- Resident/Breeding:
  - *[A103] Peregrine falcon Falco peregrinus*
  - *[A346] Red-billed chough Pyrrhocorax pyrrhocorax*
  - *[A200] Razorbill Alca torda*
  - *[A009] Northern fulmar Fulmarus glacialis*
  - *[A130] Oystercatcher Haematopus ostralegus*
  - *[A017] Great cormorant Phalacrocorax carbo*
  - *[A018] Shag Phalacrocorax aristotelis*
  - *[A188] Black-legged kittiwake Rissa tridactyla*
  - *[A199] Guillemot Uria aalge*
  - *[A028] Grey Heron Ardea cinerea*
  - *[A048] Shelduck Tadorna tadorna*
  - *[A182] Common Gull Larus canus*
  - *[A184] Herring Gull Larus argentatus*
  - *[A179] Black-headed Gull Larus ridibundus*
- Breeding Season only:
  - *[A193] Common Tern Sterna Hirundo*
  - *[A191] Sandwich Tern Sterna sandvicensis*
- Wintering/Passage:
  - *[A062] Scaup Aythya marila*
  - *[A067] Goldeneye Bucephala clangula*
  - *[A125] Coot Fulica atra*
  - *[A003] Great Northern Diver Gavia immer*
  - *[A069] Red-breasted Merganser Mergus serrator*
  - *[A007] Slavonian Grebe Podiceps auritus*
  - *[A005] Great Crested Grebe Podiceps cristatus*

2.57 Nesting at Dunree Head is likely to be limited to species such as *F. glacialis, R. tridactyla* and *U. aalge* that typically nest on sea cliffs (*A. torda* are more likely to nest in colonies on rocky islands), and possibly *Phalacrocorax spp.* and *Larus spp.*

2.58 As is set out in the EcIA, this habitat suitability assessment was largely borne-out by the surveys; several SPA species – *R. tridactyla, U. aalge, B. clangula, A. cinerea, F. glacialis, H. ostralegus, A. torda, M. serrator, L. ridibundus, L. canus, L. argentatus, S. sandvicensis, P. aristotelis, T. tadorna* – were recorded at and close to Dunree Head during the breeding and wintering season.

2.59 The only SPA species confirmed to be present in close proximity to areas proposed for development was *F. glacialis* – birds were observed on the sea cliffs, both at and close to the Lower Fort (Lough

[28] *'Conservation Objectives for Horn Head to Fanad Head SPA [004194]'* (National Parks and Wildlife Service (NPWS), 2022) along with *'Site Synopsis – Horn Head to Fanad Head SPA'* (National Parks and Wildlife Service (NPWS), 2014), both retrieved from https://www.npws.ie/protected-sites, and Natura 2000 – Standard Data Form – IE0004194 Horn Head to Fanad Head SPA, retrieved from https://natura2000.eea.europa.eu/, are reproduced at Annex A.

Swilly Walkway) and close to the location proposed for the Lighthouse Walkway, in very low numbers during the nesting season; *F. glacialis* were also observed loafing/roosting in these locations during winter and were regularly observed in flight [Plates 2.11-2.14]. *R. tridactyla* were regularly observed in flight close to the sea cliffs to the north and east of the Lighthouse and, while not confirmed through observation, are very likely to nest on these sea cliffs.

2.60 The designation population size of *F. glacialis* for Horn Head to Fanad Head SPA[29] is 1,974 pairs (1999 seabird data) – as such, any disturbances to the few nesting pairs close to the Lough Swilly Walkway or the Lighthouse Walkway (were works allowed to take place with no regard for nesting seabirds) would be insignificant in terms of the SPA population and the site integrity of Horn Head to Fanad Head SPA (1% of the breeding population ~ 20 pairs). Many of the birds observed on these cliffs during the nesting season were likely non-breeding juveniles in any case. Similarly, the designation population size of *R. tridactyla* is 3,853 pairs. The *F. glacialis* and *R. tridactyla* nesting on the sea cliffs around Dunree Head are more likely associated with the smaller non-qualifying populations known to be present in North Inishowen Coast SAC (150+ pairs, <500 pairs respectively, data from 1970s).[30] Works will be programmed and timed to avoid disturbing nesting birds across the site in any case.

Plate 2.11: Northern fulmar *Fulmarus glacialis* – roosting at the Lower Fort in winter [January 2023]

Plate 2.13: Northern fulmar *Fulmarus glacialis* – in flight over Lough Swilly [July 2022]

Plate 2.12: Northern fulmar *Fulmarus glacialis* – nesting on cliffs below the Lower Fort [June 2022]

Plate 2.14: Northern fulmar *Fulmarus glacialis* – in flight close to the cliffs below the Lower Fort [June 2022]

2.61 *P. pyrrhocorax* were observed at the site in 2022 and 2023, and are known to nest at or close to Dunree Head, but no nest sites were confirmed from or close to any areas proposed for new development. Nesting opportunities are sub-optimal for *F. peregrinus* at Dunree Head and, as is set out in the EcIA, no falcons were observed within or close to the site in 2022 or 2023.

[29] *'Site Synopsis – Horn Head to Fanad Head SPA'* (National Parks and Wildlife Service (NPWS), 2014) & Natura 2000 Data Form.

[30] *'Site Synopsis – North Inishowen Coast SAC'* (National Parks and Wildlife Service (NPWS), 2014) & Natura 2000 Data Form.

2.62 The few pairs of *F. glacialis* that nest on the cliffs close to the Lower Fort seem to be well habituated to human proximity and activity and the viability of these cliffs as nesting a location is unlikely to change as visitor numbers increase over the years. Even if it is the case that *F. glacialis* cease nesting at this location, displacement to other suitable opportunities around the coast is unlikely to be significant in terms of the integrity of the SPA population.

2.63 Otherwise, SPA species were not present at Dunree Head in significant numbers or in such a manner that disturbances might constitute an adverse impact on the site integrity of any SPA.

2.64 As such significant adverse impacts on the avifauna assemblages associated with Horn Head to Fanad Head SPA and Lough Swilly SPA are unlikely to occur as a result of the project and can be excluded/screened-out.

Fanad Head SPA

2.65 Fanad Head SPA is an on-shore site designated exclusively for Corncrake *Crex crex*, a migratory ground-nesting bird that utilises areas of extensively managed terrestrial grasslands on the Fanad Head peninsula during the nesting season. There is therefore no operational *source-pathway-receptor* mechanism for adverse impacts and Fanad Head SPA can also be excluded/screened-out.

A Note on Mitigation

2.66 Iterative project design and assessment, cognisance of the sensitivities of the local receiving environment and ecological receptors from the design team, and pre-application discussions with Donegal County Council and other stakeholders and consultees, has resulted in generally low-impact development proposals. Some initial design aspirations were found to be unachievable, given ecological (and other) constraints, and other aspects of layout and design were rethought and redesigned *inter-alia* to avoid or reduce ecological impact.

2.67 The mitigation hierarchy – *avoidance/elimination, protection, reduction/limitation, compensation, remediation, enhancement* – is a familiar concept[31] in ecological and environmental assessment and management. After *People Over Wind,* mitigation (i.e. measures to address harmful effects on Natura 2000 sites) cannot be taken into account at the screening stage. However, this mainly applies to *protection* and impact *reduction* and *limitation* – where potential adverse impacts on Natura 2000 sites have been *avoided* or *eliminated* through project redesign prior to submission, this cannot be considered as mitigation that is caught by *People Over Wind.* In a similar vein, the more general protection of ecological/environmental receptors, where this is not necessary for the protection of Natura 2000 sites, is not caught by *People Over Wind* when screening for AA.

2.68 In this case, discharges from the surface water drainage system to an undesignated part of Lough Swilly will be controlled, primarily to ensure best practice and compliance with EPA and DCC emissions standards – this may also have some safeguarding effect on the various Natura 2000 sites associated with Lough Swilly but as no significant adverse effects on the Natura 2000 sites would be likely to occur in the absence of measures to control surface water discharges, this is not *mitigation* that is caught by *People Over Wind.* Similarly, as is set out in the EcIA, a Construction Environmental Management Plan (CEMP) will be developed to ensure best construction practice and prevent incidental pollution of Lough Swilly and the receiving environment more generally, but as it is not required to prevent adverse impacts on Natura 2000 sites, this is not *mitigation* that is caught by *People Over Wind.* Works will be programmed and timed across the site to avoid disturbing nesting birds (whether SPA species or not). This will serve protect any *F. glacialis* and *R. tridactyla* nesting on the

[31] e.g. '*Guidelines for Ecological Impact Assessment in the UK and Ireland – Terrestrial, Freshwater, Coastal and Marine'* (CIEEM, 2018) & '*BS 42020:2013 Biodiversity – Code of practice for planning and development'* (The British Standards Institution, 2013, London).

sea cliffs around Dunree Head that may otherwise be disturbed by the works, and may have some safeguarding effect on the large and distributed breeding populations present around the coast of northern Co. Donegal, but as no significant adverse effects on the SPA populations would be likely to occur in the absence of appropriate project programming, this again is not *mitigation* that is caught by *People Over Wind.*

Screening Matrices

Table 2.1: Screening – North Inishowen Coast SAC

Brief description of the project or plan:	
The Fort Dunree Project The Fort Dunree Project aims to deliver a modern, creative, and holistic visitor experience and secure a sustainable future for this historic and unique site and create a landmark 'must see' attraction on the Wild Atlantic Way. The project seeks to retain the essential character and structure of the site as it is now, and as it was previously, and maintain the high environmental and landscape quality of the area through revitalized historic landscapes and structures, conservation of habitats and biodiversity, and new distinctive insertions that will enhance the existing infrastructure and visitor experience. Annual visitor numbers are expected to grow from current 14,250 to 114,191 in ten years. The proposals include new development and comprehensive redevelopment in places; improvements, renovations, and refurbishment in others; new and upgraded infrastructure and services; and landscaping where necessary.	
Brief Description of the Natura 2000 site:	
North Inishowen Coast SAC North Inishowen Coast SAC (IE001398) was classified in June 1999 and last updated in October 2020. The designated area covers approximately 7,066ha (51% marine area) in a continuous band around the Inishowen coast from Crummies Bay in the west to Malin Head in the north and down to Inishowen Head in the east. The site encompasses a wide variety of coastal habitats including high rocky cliffs, offshore islands, sand dunes, saltmarsh, a large intertidal bay, rocky, shingle and sand beaches, and on-shore heathland. North Inishowen Coast was classified SAC for the following habitats listed on Annex I of the Habitats Directive: *[1140] Tidal Mudflats and Sandflats, [1220] Perennial Vegetation of Stony Banks, [1230] Vegetated Sea Cliffs, [2130] Fixed Dunes (Grey Dunes)* (a priority habitat), *[21A0] Machairs* (a priority habitat) and *[4030] Dry Heath*; and for the following species listed on Annex II of the Habitats Directive: *[1014] Narrow-mouthed Whorl Snail (Vertigo angustior)* & *[1355] Otter (Lutra lutra).* Summary description provided above; designation documentation and conservation objectives reproduced at Annex A.	
Is the project connected with the protection or management of the Natura 2000 site?	No
Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.	
For the purposes of screening, a general conservation objective encapsulating an overall aim of maintaining or restoring the favourable conservation status of North Inishowen Coas SAC and qualifying feature interest is applied. North Inishowen Coast SAC lies to the north and east of the site. The designated area is just beyond the eastern site boundary and overlaps a small section in the northern corner. The site therefore shares direct physical and habitat connectivity with North Inishowen Coast SAC but no development is proposed in close proximity to any area designated within the SAC and no drainage from the site will be directed towards the SAC. As such, no direct impacts cannot occur. Much of the terrestrial area of the extensive North Inishowen Coast SAC is dominated by *[4030] Dry Heath* which is superficially similar to the heathland habitat found in the elevated northern and eastern sections of Dunree Head, but which does not meet the criteria for identification as the Annex I habitat type and does not merit inclusion within the SAC, but is contiguous with the SAC heathlands and provides a valuable buffering function. Similarly, the sea cliffs to the north and west of the site do not qualify as the Annex I habitat type *[1230] Vegetated Sea Cliffs* and do not merit inclusion in the SAC. The Fort Dunree site and immediately adjoining areas support no habitats that resemble *[1140] Tidal Mudflats and Sandflats, [1220] Perennial Vegetation of Stony Banks, [2130] Fixed Dunes (Grey Dunes)* or *[21A0] Machairs* and provide no habitat suitable for *[1014] Narrow-mouthed Whorl Snail (Vertigo angustior).* The mobile SAC feature species *[1355] Otter (Lutra lutra)* may well be active within and around the site but no field evidence of otter habitation or activity was found at or close to any location proposed for new development or redevelopment.	
Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 site by virtue of:	
size and scale:	This is a large site and a significant development project which is outside but close to the SAC. In the context of the scale of pre-existing development within the site, the extent of the SAC, and the physical

	separation between new development and the SAC. The project does not attach any potential for significant adverse effects on the site integrity of the SAC as a result of size and scale.
land-take:	The project requires no land-take from within the SAC and losses of semi-natural habitat from lands outside but adjacent to the SAC are minimal (insignificant); the buffering function will not be compromised.
distance:	The site is close to but physically separated from the SAC and no development is proposed in close proximity to any area designated within the SAC. Otter *Lutra lutra* may be active within and around the site but no field evidence of habitation or activity was found at or close to any location proposed for new development or redevelopment. The project will not result in any significant impacts on SAC habitats or species due to proximity.
resources:	No resources are required from within the SAC or from supporting (non-designated) natural/semi-natural areas.
emissions:	No drainage from the site will be directed towards North Inishowen Coast SAC.
excavation:	No excavation is required within or close to any area designated within the SAC. Some minor excavations are likely required to expose and repair structures at the High Fort, and to widen the High Fort Access Road, but these works will have no direct or indirect adverse impacts on the SAC, any feature species interest, or any supporting/buffering habitat.
transportation:	All transportation will be achieved using existing public roads; the project does not attach any potential for significant adverse effects on the site integrity of the SAC as a result of transportation.
duration/timing:	The completed site will operate indefinitely with no plans for decommissioning. This does not in itself attach any potential for significant adverse effects on the site integrity of the SAC. The timing of the works themselves has no implications for the site integrity of the SAC.
other:	Annual visitor numbers are expected to grow from current 14,250 to 114,191 over 10 years but this is not expected to have any implications for the site integrity of the SAC. New lighting is restricted to the lower part of the site, is confined to the car park, the village road and the square, and follows responsible lighting practices; all installations are 'dark skies' approved – the SAC and supporting/buffering heathlands will not be subject to any artificial illumination as a result of the project.
Describe any likely changes to the Natura 2000 site arising as a result of:	
habitat loss/reduction: habitat fragmentation:	The project will not result in any direct loss or fragmentation of natural/semi-natural habitat from within the SAC or supporting/buffering (non-designated) areas.
species loss/reduction: species disturbance:	The project will not result in any direct loss/fragmentation or disturbance of feature species either within the SAC or supporting/buffering (non-designated) areas.
Describe any likely impacts on the Natura 2000 site as a whole in terms of changes in key indicators of conservation value (water quality etc.) and/or interference with the key relationships that define the structure and function of the site:	
The key indicators of conservation value that are at risk of significant adverse impact are – the extent, distribution, function, composition, and structure of *[4030] Dry Heath* and *[1230] Vegetated Sea Cliffs* habitat within the SAC; the presence/occurrence, distribution, density, patterns of movement/behaviour, and breeding success of the feature population of *[1355] Otter (Lutra lutra),* and the quality and extent of suitable commuting and foraging habitat. More generally, the structure, function, quality and naturalness of North Inishowen Coast SAC as a whole, and the associated floral and faunal assemblages.	
Provide indicators of significance as a result of the identification of effects set out above in terms of:	
loss:	The project will not result in any loss of *[4030] Dry Heath* or *[1230] Vegetated Sea Cliffs* habitat from within the SAC. The project will not result in any significant losses of natural/semi-natural heathland or sea cliff habitat from supporting/buffering areas outside the SAC. The project will not result in any loss of feature *[1355] Otter (Lutra lutra)* either within the SAC or supporting/buffering areas outside the SAC.

fragmentation:	The project will not result in any fragmentation of *[4030] Dry Heath* or *[1230] Vegetated Sea Cliffs* habitat from within the SAC. The project will not result in any significant fragmentation of natural/semi-natural heathland or sea cliff habitat from supporting/buffering areas outside the SAC. The project will not result in any fragmentation of the feature population of *[1355] Otter (Lutra lutra)* present and active both within the SAC and supporting areas outside the SAC.
disruption: disturbance:	The project will not result in any disruption or disturbance of feature species – *[1355] Otter (Lutra lutra)* – within the SAC or at Dunree Head more generally.
key elements of the site:	The project is not expected to exert any appreciable influence on the key elements of North Inishowen Coast SAC.

Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts are not known.

There are no elements of the project, or combinations of elements, which are likely to cause significant adverse impacts on the SAC or for which the scale or magnitude of impact is not known. The project as a whole is not expected to exert any appreciable influence on the site integrity of North Inishowen Coast SAC.

Table 2.2: Screening – Horn Head to Fanad Head SPA & Lough Swilly SPA – Avifauna

Brief description of the project or plan:

The Fort Dunree Project

The Fort Dunree Project aims to deliver a modern, creative, and holistic visitor experience and secure a sustainable future for this historic and unique site and create a landmark 'must see' attraction on the Wild Atlantic Way. The project seeks to retain the essential character and structure of the site as it is now, and as it was previously, and maintain the high environmental and landscape quality of the area through revitalized historic landscapes and structures, conservation of habitats and biodiversity, and new distinctive insertions that will enhance the existing infrastructure and visitor experience. Annual visitor numbers are expected to grow from current 14,250 to 114,191 in ten years. The proposals include new development and comprehensive redevelopment in places; improvements, renovations, and refurbishment in others; new and upgraded infrastructure and services; and landscaping where necessary.

Brief Description of the Natura 2000 site:

Horn Head to Fanad Head SPA & Lough Swilly SPA

The mobile SPA avifauna assemblages associated with Horn Head to Fanad Head SPA and Lough Swilly SPA potentially present at Dunree Head is limited by habitat preference/suitability and availability, and likely comprises resident populations of *[A103] Peregrine falcon Falco peregrinus, [A346] Red-billed chough Pyrrhocorax pyrrhocorax, [A200] Razorbill Alca torda, [A009] Northern fulmar Fulmarus glacialis, [A130] Oystercatcher Haematopus ostralegus, [A017] Great cormorant Phalacrocorax carbo, [A018] Shag Phalacrocorax aristotelis, [A188] Black-legged kittiwake Rissa tridactyla, [A199] Guillemot Uria aalge, [A028] Grey Heron Ardea cinerea, [A048] Shelduck Tadorna tadorna, [A182] Common Gull Larus canus, [A184] Herring Gull Larus argentatus, [A179] Black-headed Gull Larus ridibundus*; breeding season populations of *[A193] Common Tern Sterna Hirundo, [A191] Sandwich Tern Sterna sandvicensis*; and wintering/passage populations of *[A062] Scaup Aythya marila, [A067] Goldeneye Bucephala clangula, [A125] Coot Fulica atra, [A003] Great Northern Diver Gavia immer, [A069] Red-breasted Merganser Mergus serrator, [A007] Slavonian Grebe Podiceps auritus, [A005] Great Crested Grebe Podiceps cristatus*.

Summary descriptions provided above; designation documentation and conservation objectives for Horn Head to Fanad Head SPA reproduced at Annex A.

Is the project connected with the protection or management of the Natura 2000 site?	No

Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.

For the purposes of screening, general conservation objective encapsulating an overall aim of maintaining or restoring the favourable conservation status of Horn Head to Fanad Head SPA and Lough Swilly SPA and the various qualifying feature interest is applied. Although not site selection features for SPAs, habitats are essential to conservation and are treated as if they were.

As the site is not within or immediately adjacent to Horn Head to Fanad Head SPA or Lough Swilly SPA direct impacts cannot occur.

Several SPA species – *R. tridactyla, U. aalge, B. clangula, A. cinerea, F. glacialis, H. ostralegus, A. torda, M. serrator, L. ridibundus, L. canus, L. argentatus, S. sandvicensis, P. aristotelis, T. tadorna* – were recorded at and close to Dunree Head during the breeding and

wintering seasons. The only SPA species confirmed to be present in close proximity to areas proposed for development was *F. glacialis* – birds were observed nesting on the sea cliffs, both at and close to the Lower Fort (Lough Swilly Walkway) and close to the location proposed for the Lighthouse Walkway, in very low numbers; *F. glacialis* were also observed loafing/roosting in these locations during winter and were regularly observed in flight. *R. tridactyla* were regularly observed in flight close to the sea cliffs to the north and east of the Lighthouse and are very likely to nest in this area.

Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 site by virtue of:	
size and scale:	This is a large site and a significant development project which is outside and well away from Horn Head to Fanad Head SPA and Lough Swilly SPA. In the context of the scale of pre-existing development within the site, the extent of Lough Swilly, and the physical separation between new development and the SPAs. The project does not attach any potential for significant adverse effects on the site integrity of the Horn Head to Fanad Head SPA or Lough Swilly SPA as a result of size and scale.
land-take:	The project requires no land-take from within Horn Head to Fanad Head SPA, Lough Swilly SPA, or any supporting (non-designated) area of natural/semi-natural habitat.
distance:	The site is outside and significantly physically separated from the SPAs. Several SPA species – *R. tridactyla, U. aalge, B. clangula, A. cinerea, F. glacialis, H. ostralegus, A. torda, M. serrator, L. ridibundus, L. canus, L. argentatus, S. sandvicensis, P. aristotelis, T. tadorna* – were recorded at and close to Dunree Head during the breeding and wintering seasons. *F. glacialis* were confirmed to be nesting in low (insignificant) numbers on the sea cliffs at and close to the Lower Fort (Lough Swilly Walkway) and the location proposed for the Lighthouse Walkway. *R. tridactyla* are very likely to be nesting on the sea cliffs to the north and east of the Lighthouse, again in low (insignificant) numbers. Any disturbances to nesting *F. glacialis* or *R. tridactyla* resulting from the project would not be significant in terms of SPA integrity (notwithstanding that works will be programmed/timed to avoid the nesting season in any case). Other SPA species were not present in significant numbers or in such a manner that disturbances might constitute adverse impacts on the site integrity of the SPAs. The project will not result in any significant impacts on SPA species due to proximity.
resources:	No resources are required from within the SPAs or from supporting (non-designated) natural/semi-natural areas.
emissions:	All site drainage is to Lough Swilly but given the absorptive, dispersal, and dilution capacity of the dynamic coastal/marine receiving waterbody this will have no direct or indirect adverse impacts on the SPAs or any feature species interest. Discharges from the surface drainage systems to Lough Swilly will be controlled in any case.
excavation:	No excavations are required within the SPAs or within any supporting (non-designated) natural/semi-natural areas. Some minor excavations are required to form and install the foundations and supporting structures for the two walkways these works will have no direct or indirect adverse impacts on the SPAs or any feature species interest.
transportation:	All transportation will be achieved using existing public roads; the project does not attach any potential for significant adverse effects on the site integrity of the Natura 2000 sites as a result of transportation.
duration/timing:	The completed site will operate indefinitely with no plans for decommissioning. This does not in itself attach any potential for significant adverse effects on the site integrity of the SPAs. Although not necessary to prevent significant adverse effects on the SPA populations, works will be programmed and timed to avoid disturbing nesting seabirds.
other:	Annual visitor numbers are expected to grow from current 14,250 to 114,191 over 10 years. The few pairs of *F. glacialis* that nest on the cliffs close to the Lower Fort seem to be well habituated to human proximity and activity and the viability of these cliffs as nesting a location is unlikely to change as visitor numbers increase. Even if it is the case that *F. glacialis* cease nesting at this location, displacement to other suitable opportunities around the coast is unlikely to be significant in terms of the integrity of the SPA population. New lighting is restricted to the lower part of the site, is confined to the car park, the village road and the square, and follows responsible lighting practices; all installations are 'dark skies' approved – the sea cliffs and open water of Lough Swilly will not be subject to any artificial illumination.

Describe any likely changes to the Natura 2000 site arising as a result of:	
habitat loss/reduction: habitat fragmentation:	The project will not result in any direct loss or fragmentation of natural/semi-natural habitat from within the SPAs or any supporting (non-designated) areas.
species loss/reduction: species disturbance:	The project will not result in any direct loss/fragmentation or disturbance of feature species within the SPAs. Any disturbances that may occur to nesting *F. glacialis* or *R. tridactyla* during construction works, or subsequent local fragmentation of nesting *F. glacialis* as a result of increasing visitor numbers, is not expected to be significant in terms of the site integrity of Horn Head to Fanad Head SPA.
Describe any likely impacts on the Natura 2000 site as a whole in terms of changes in key indicators of conservation value (water quality etc.) and/or interference with the key relationships that define the structure and function of the site:	
The key indicators of conservation value that are at risk of significant adverse impact are – the presence/occurrence, distribution, density, patterns of movement/behaviour, and breeding or over-wintering success (as appropriate) of the SPA feature populations of within Lough Swilly. More specifically, the nesting and breeding success of *[A009] Northern fulmar Fulmarus glacialis* & *[A188] Black-legged kittiwake Rissa tridactyla* at Dunree Head (notwithstanding that this area is well outside Horn Head to Fanad Head SPA).	
Provide indicators of significance as a result of the identification of effects set out above in terms of:	
loss:	The project will not result in any loss of feature SPA species within the SPAs. The project will not result in any loss of feature SPA species from areas outside the SPAs.
fragmentation:	The project will not result in any fragmentation of feature SPA species within the SPAs. Any local fragmentation of nesting *[A009] Northern fulmar Fulmarus glacialis* that may occur as a result of increasing visitor numbers is not expected to be significant in terms of the site integrity of Horn Head to Fanad Head SPA. Other SPA species were not present in significant numbers for any significant fragmentation that might constitute an adverse impact on the site integrity of the SPAs to occur.
disruption: disturbance:	The project will not result in any disruption or disturbance of feature SPA species within the SPAs. Any disruption or disturbance that may occur to nesting *[A009] Northern fulmar Fulmarus glacialis* or *[A188] Black-legged kittiwake Rissa tridactyla* during construction works is not expected to be significant in terms of the site integrity of Horn Head to Fanad Head SPA. Other SPA species were not present in significant numbers or in such a manner for significant disturbances that might constitute adverse impacts on the site integrity of the SPAs to occur.
key elements of the site:	The project is not expected to exert any appreciable influence on the key elements of either Horn Head to Fanad Head SPA or Lough Swilly SPA.
Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts are not known.	
There are no elements of the project, or combinations of elements, which are likely to cause significant adverse impacts on the SPAs or for which the scale or magnitude of impact is not known. The project is not expected to exert any appreciable influence on the site integrity of either Horn Head to Fanad Head SPA or Lough Swilly SPA.	

Conclusions

2.69 Screening has demonstrated that the construction/development and operation of the Fort Dunree Project will exert no appreciable influence on the site integrity of North Inishowen Coast SAC or any other Natura 2000 site. As significant adverse impacts on the Natura 2000 network are unlikely to occur, Appropriate Assessment (AA) is not required.

Annex A: Natura 2000 Site Information

Annex A1: North Inishowen Coast SAC Site Synopsis (February 2014)

Annex A2: North Inishowen Coast SAC Standard Natura 2000 Data Form (October 2020)

Annex A3: North Inishowen Coast SAC Conservation Objectives (November 2014)

Annex A4: Horn Head to Fanad Head SPA Site Synopsis (November 2014)

Annex A5: Horn Head to Fanad Head SPA Standard Natura 2000 Data Form (October 2020)

Annex A6: Horn Head to Fanad Head SPA Conservation Objectives (October 2022)

SITE SYNOPSIS

Site Name: North Inishowen Coast SAC

Site Code: 002012

The North Inishowen Coast SAC stretches from Crummies Bay in the west up to Malin Head and back down to Inishowen Head to the east. It encompasses an excellent variety of coastal habitats including high rocky cliffs, offshore islands, sand dunes, saltmarsh, a large intertidal bay, and rocky, shingle and sand beaches. There are excellent raised beaches along the east coast including the oldest and best preserved late-glacial fossil coast in Ireland (between Ineuran Bay and Esky Bay). Indeed it is the only well preserved such coast in Europe and so is of international importance. Also of geomorphological interest is the small area of stone polygons near Malin Tower.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[1140] Tidal Mudflats and Sandflats
[1220] Perennial Vegetation of Stony Banks
[1230] Vegetated Sea Cliffs
[2130] Fixed Dunes (Grey Dunes)*
[21A0] Machairs*
[4030] Dry Heath

[1014] Narrow-mouthed Whorl Snail (*Vertigo angustior*)
[1355] Otter (*Lutra lutra*)

Sea cliffs are a feature of the site, with the best examples found in the west of the site (Dunree to Leenan Head and Dunaff Head) and in the area to the north-west of Glengad Head. Cliffs are often less than 50 m in height, though they reach over 200 m at Dunaff and to the north-west of Glengad Head. The dominant rock type is quartzite which is particularly hard and unyielding. The vegetation cover of the cliffs is variable, depending on factors such as underlying geology, aspect and the degree of exposure to winds and sea spray. Common plant species of the rocky cliffs are Thrift (*Armeria maritima*), sea-spurrey (*Spergularia* spp.), Sea Aster (*Aster tripolium*), Red Fescue (*Festuca rubra*), Common Scurvygrass (*Cochlearia officinalis*), Sea Campion (*Silene vulgaris* subsp. *maritima*) and Buck's-horn Plantain (*Plantago coronopus*). In addition to the higher plants, the saxicolous lichen *Ramalina siliquosa* is a very characteristic feature of cliffs throughout the site. The cliffs contain a number of rare plant species, notably Scots Lovage (*Ligusticum scoticum*), a legally protected species. Two other scarce species recorded at the site, Moss Campion (*Silene acaulis*) and

Purple Saxifrage (*Saxifraga oppositifolia*), are listed in the Red Data Book. Ivy Broomrape (*Orobanche hederae*), a locally rare species that is parasitic on Ivy (*Hedera helix*), has been recorded from sea cliffs to the north of Leenan Bay. The striking succulent species Roseroot (*Rhodiola rosea*), which is largely restricted to high mountain cliffs and sea cliffs in the west and the north of the country, is frequent throughout the site. In many parts of the site sea cliff areas support dry heath and grassland vegetation.

Shingle beaches are well represented at the site, with the best examples at Rockstown harbour/Tullagh Point and along the north-western shoreline of Malin Head promontory. These areas contain good examples of raised beaches, characterised by large mounds of shingle, which may be interspersed by low cliffs (as seen at Tullagh Point). Although the vegetation of these shingle areas is usually quite sparse, plant species such as Sea Sandwort (*Honkenya peploides*), Sea Mayweed (*Matricaria maritima*) and Curled Dock (*Rumex crispus*) are locally frequent. The rare species Oysterplant (*Mertensia maritima*), which is listed in the Flora (Protection) Order, 1999, has been recorded growing on shingle substrate within the site.

Sand dune systems occur within the site at several locations, with good examples of fixed dunes and machair. The dune habitat at the Isle of Doagh is by far the most extensive. Typical species of the fixed dunes include Marram (*Ammophila arenaria*) and Red Fescue, accompanied by Common Bird's-foot-trefoil (*Lotus corniculatus*), Sand Sedge (*Carex arenaria*), mouse-ears (*Cerastium* spp.), Wild Thyme (*Thymus praecox*), Smooth Meadow-grass (*Poa pratensis*) and Mouse-ear Hawkweed (*Hieracium pilosella*). Bryophyte cover is usually well developed, with species such as *Rhytidiadelphus squarrosus, Hypnum cupressiforme* and *Calliergon cuspidatum* being frequent. Although much of the botanical character of the machair habitat at Doagh Isle has been modified due to agricultural reclamation, re-seeding and over-grazing, significant areas with a typical machair flora remain. The sward is typically dominated by low herb species such as Red Fescue, Ribwort Plantain (*Plantago lanceolata*), Daisy (*Bellis perennis*), Red Clover (*Trifolium repens*) and Lady's Bedstraw (*Galium verum*).

Shifting dunes and fixed dunes also occur above the rocky shore at Meallalaghtra/ Lenan Head. This area also contains marsh with Mare's-tail (*Hippuris vulgaris*), Brookweed (*Samolus valerandi*) and sedges (*Carex* spp.). *Hygrocybe* species, fungi that are indicators of unimproved grassland, occur in the coastal grassland sward.

Significant areas of dry heath occur in the site at both low and high altitudes. The best-developed and most extensive areas are to be found at Dunaff Head, Binnion Hill and in the Urris Hills from Mamore Gap, south-west to Lough Fad and beyond to Crockfadda. However the habitat is also encountered at sea level where it tends to form a mosaic with grassland vegetation. Typically the vegetation develops on shallow peats less than 50 cm deep and is dominated by Heather (*Calluna vulgaris*). Other frequent shrub species include Bell Heather (*Erica cinerea*), Cross-leaved Heath (*Erica tetralix*), Crowberry (*Empetrum nigrum*) and Bilberry (*Vaccinium myrtillus*). Fir Clubmoss (*Huperzia selago*) and the diminutive Lesser Twayblade (*Listera cordata*) are

present in the heath on the Urris Hills. In addition to the dwarf ericoid component, acid grassland species such as Mat-grass (*Nardus stricta*), Velvet Bent (*Agrostis canina*), Tormentil (*Potentilla erecta*) and Heath-grass (*Danthonia decumbens*) are frequent components. This combination of plant species gives rise to a mosaic of dwarf heath and acid grassland, the relative proportion of which depends on factors such as degree of exposure, grazing intensity and the frequency of fire. Often there is much outcropping rock present and invasion by Bracken (*Pteridium aquilinum*) is a frequent feature of the habitat (as seen at Binnion Hill). At Dunaff Head the habitat forms a mosaic with blanket bog, containing Common Cottongrass (*Eriophorum angustifolium*), Hare's-tail Cottongrass (*E. vaginatum*), Cross-leaved Heath and Eared Willow (*Salix aurita*). The main threats to the heath habitat at present are over-grazing and uncontrolled burning.

A diverse fern flora is found on damp, north-facing rock outcrops in the Urris Hills, including Wilson's Filmy-fern (*Hymenophyllum wilsonii*), Broad Buckler-fern (*Dryopteris dilatata*), Hay-scented Buckler-fern (*D. aemula*), Black Spleenwort (*Asplenium adiantum-nigrum*) and polypody ferns (*Polypodium* spp.). The Urris Hills also contain the oligotrophic lakes Crunlough and Lough Fad, and on their lower slopes dry and wet acid grassland, Hazel (*Corylus avellana*) scrub, dense Bracken, blanket bog and wet heath occur.

Trawbreaga Bay is a very sheltered sea bay with a narrow strait to the open sea at the north end. It is fed by a number of small rivers or streams. An estimated 80% of the bay area is exposed at each low tide to expose a mixture of mudflats, sandbanks and stony/rocky substrates. In the inner reaches of the bay, the substrate consists of muddy sand and coarse sediments with an infaunal community of polychaetes, oligochaetes and crustaceans. Within the narrow strait, the community is comprised of bivalves and polychaetes within a sandy substrate. The polychaete *Arenicola marina* is a conspicuous species within the intertidal soft sediments of the bay. Beds of Dwarf Eelgrass (*Zostera noltii*) display temporal variation in occurrence within the bay; they were recorded on the shore at Doaghmore and currently present south west of Glassagh Point. Mats of green algae occur on the open flats. Some areas of saltmarsh fringe the bay.

Throughout the site, exposed sandy beaches occur in embayments and in coves bordered by bedrock and in the outer reaches of Trawbreaga Bay. Here a sand community with crustaceans and polychaetes occurs. Where the intertidal reef is present on exposed shores the community consists of the bivalve *Mytilus edulis* and barnacles. In such areas where reef extends into the subtidal the kelp *Laminaria hyperborea* occurs. In the less exposed areas and within Trawbreaga Bay the brown algae *Pelvetia canaliculata, Fucus vesiculosus, F. spiralis* and *Ascophyllum nodosum* are found.

Otter are regularly seen along the shoreline and may breed within the site. Otter is a species listed on Annex II of the E.U. Habitats Directive. Another Annex II species, the tiny whorl snail *Vertigo angustior*, is also known from this site.

This site has important bird interests. An internationally important population of Barnacle Goose occurs in the area, with Trawbreaga Bay their most important haunt. For the four winters 1994/95 - 1997/98 the mean peak count was 673 birds. Barnacle Goose is listed on Annex I of the E.U. Birds Directive. A range of other waterfowl species winter at Trawbreaga Bay, with an internationally important population of Brent Goose (338 in winters 1994/95-97/98). Other species which occur in regionally or locally important numbers include Wigeon, Mallard, Oystercatcher, Ringed Plover, Dunlin, Curlew and Redshank.

Two Annex I E.U. Birds Directive species breed within the site. There are up to 12 breeding territories of Peregrine and 12 pairs of Chough. Both of these species are associated with the rocky sea cliffs, with the Choughs utilising the heath and sandy habitats for feeding.

Several species of seabird breed on the cliffs and islets. These include Fulmar (150+ pairs), Cormorant (270+ pairs), Shag (330+ pairs), Kittiwake (<500 pairs), Guillemots (approx. 1,000 individuals), Razorbills (approx. 1,000 individuals) and Black Guillemots (approx. 80 individuals) (All data from 1970s). The machair and dunes at Doagh Isle and elsewhere support breeding waders. In 1996 the following were recorded: Oystercatcher (2+ pairs), Ringed Plover (7 pairs), Lapwing (15 pairs) and Snipe (3 pairs).

This northern site is of high conservation value because of the extensive area of relatively unspoilt coastal and heath habitats and the range of plant and animal species that these habitats support. Of particular note is the presence of good examples of two E.U. Habitats Directive Annex I priority habitats, fixed dunes and machair. Very good examples of several other Annex I habitats are found, notably sea cliffs, vegetated shingle banks, dry heath and intertidal sand and mudflats. There are two legally protected plant species and a range of scarce species. The diversity of bird species is of particular note, with wintering waterfowl, breeding seabirds and breeding waders. Important populations of three E.U. Birds Directive Annex I species occur - Barnacle Goose, Peregrine and Chough.

Database release: End2021 --- 06/10/2022

SDF

NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA),
Proposed Sites for Community Importance (pSCI),
Sites of Community Importance (SCI) and
for Special Areas of Conservation (SAC)

SITE	**IE0002012**
SITENAME	**North Inishowen Coast SAC**

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Print Standard Data Form

1. SITE IDENTIFICATION

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1.1 Type

B

1.2 Site code

IE0002012

1.3 Site name

North Inishowen Coast SAC

1.4 First Compilation date

1999-06

1.5 Update date

2020-10

1.6 Respondent:

Name/Organisation:	National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht
Address:	

Email:	datadelivery@chg.gov.ie

1.7 Site indication and designation / classification dates

Date site proposed as SCI:	1999-06
Date site confirmed as SCI:	No information provided
Date site designated as SAC:	No information provided
National legal reference of SAC designation:	No information provided

2. SITE LOCATION

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2.1 Site-centre location [decimal degrees]:

Longitude:	-7.325237
Latitude:	55.302565

2.2 Area [ha]

7066.0403

2.3 Marine area [%]

51.1910

2.4 Sitelength [km] (optional):

No information provided

2.5 Administrative region code and name

NUTS level 2 code	Region Name
IE01	Border, Midland and Western

2.6 Biogeographical Region(s)

Atlantic	(0.00 %)

3. ECOLOGICAL INFORMATION

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3.1 Habitat types present on the site and assessment for them

Annex I Habitat types	Site assessment

Code	PF	NP	Cover [ha]	Cave [number]	Data quality	A|B|C|D	A|B|C		
						Representativity	Relative Surface	Conservation	Global
1140			988.311	0.00	M	B	B	B	B
1220			3.4265	0.00	M	A	B	A	A
1230			848.29	0.00	M	A	B	A	A
2130			496.058	0.00	M	B	B	C	B
21A0	X		117.94	0.00	M	B	C	C	B
4030			848.29	0.00	M	B	B	B	B

PF: for the habitat types that can have a non-priority as well as a priority form (6210, 7130, 9430) enter "X" in the column PF to indicate the priority form.

NP: in case that a habitat type no longer exists in the site enter: x (optional)

Cover: decimal values can be entered

Caves: for habitat types 8310, 8330 (caves) enter the number of caves if estimated surface is not available.

Data quality: G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation)

3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Species					Population in the site						Site assessment			
G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D.qual.	A|B|C|D	A|B|C		
						Min	Max				Pop.	Con.	Iso.	Glo.
B	A200	Alca torda			r	1000	1000	i		G	B	A	C	B
B	A050	Anas penelope			w	169	169	i		G	C	B	C	C
B	A053	Anas platyrhynchos			w	158	158	i		G	C	B	C	C
B	A046	Branta bernicla			w	338	338	i		G	C	B	C	A
B	A045	Branta leucopsis			w	673	673	i		G	B	A	C	A
B	A149	Calidris alpina			w	237	237	i		G	C	B	C	C
B	A137	Charadrius hiaticula			r	7	7	p		G	C	B	C	B
B	A137	Charadrius hiaticula			w	63	63	i		G	C	B	C	C
B	A103	Falco peregrinus			p	10	12	p		G	B	A	C	A
B	A009	Fulmarus glacialis			r	150	150	p		G	C	A	C	C
B	A153	Gallinago gallinago			r	3	3	p		G	C	B	C	C
B	A130	Haematopus ostralegus			r	2	2	p		G	C	B	C	C
B	A130	Haematopus ostralegus			w	171	171	i		G	C	B	C	C
B	A182	Larus canus			r	50	50	p		G	C	B	C	C

Species					Population in the site						Site assessment			
G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D.qual.	A|B|C|D	A|B|C		
						Min	Max				Pop.	Con.	Iso.	Glo.
M	1355	Lutra lutra			p				P	DD	C	A	C	B
B	A070	Mergus merganser			w	12	12	i		G	C	B	C	C
B	A160	Numenius arquata			w	207	207	i		G	C	B	C	C
B	A017	Phalacrocorax carbo			r	270	270	p		G	B	A	C	B
B	A346	Pyrrhocorax pyrrhocorax			p	12	12	p		G	C	A	C	B
B	A188	Rissa tridactyla			r	1	500	p		M	C	A	C	B
B	A048	Tadorna tadorna			w	25	25	i		G	C	B	C	C
B	A164	Tringa nebularia			w	4	4	i		G	C	B	C	C
B	A162	Tringa totanus			w	46	46	i		G	C	B	C	C
B	A199	Uria aalge			r	1000	1000	i		G	C	A	C	C
B	A142	Vanellus vanellus			r	15	15	p		G	C	B	C	B
B	A142	Vanellus vanellus			w	313	313	i		G	C	B	C	C
I	1014	Vertigo angustior			p				P	DD	B	B	A	B

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

S: in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes

NP: in case that a species is no longer present in the site enter: x (optional)

Type: p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)

Unit: i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see reference portal)

Abundance categories (Cat.): C = common, R = rare, V = very rare, P = present - to fill if data are deficient (DD) or in addition to population size information

Data quality: G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

3.3 Other important species of flora and fauna (optional)

Species					Population in the site				Motivation					
Group	CODE	Scientific Name	S	NP	Size		Unit	Cat.	Species Annex		Other categories			
					Min	Max		C|R|V|P	IV	V	A	B	C	D
B		Cepphus grylle			80	80	i						X	
P		Crambe maritima									X			
B		Lagopus lagopus											X	
B		Larus argentatus				1000	p							X
B		Larus marinus			50	50	p							X

Species					Population in the site				Motivation					
Group	CODE	Scientific Name	S	NP	Size		Unit	Cat.	Species Annex		Other categories			
					Min	Max		C|R|V|P	IV	V	A	B	C	D
P		Ligusticum scoticum									X			
P		Mertensia maritima									X			
B		Phalacrocorax aristotelis			330	330	p						X	
P		Saxifraga oppositifolia												X
P		Silene acaulis									X			
B		Somateria mollissima											X	
P		Vicia lathyroides									X			

Group: A = Amphibians, B = Birds, F = Fish, Fu = Fungi, I = Invertebrates, L = Lichens, M = Mammals, P = Plants, R = Reptiles

CODE: for Birds, Annex IV and V species the code as provided in the reference portal should be used in addition to the scientific name

S: in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes

NP: in case that a species is no longer present in the site enter: x (optional)

Unit: i = individuals, p = pairs or other units according to the standard list of population units and codes in accordance with Article 12 and 17 reporting, (see reference portal)

Cat.: Abundance categories: C = common, R = rare, V = very rare, P = present

Motivation categories: IV, V: Annex Species (Habitats Directive), **A:** National Red List data; **B:** Endemics; **C:** International Conventions; **D:** other reasons

4. SITE DESCRIPTION

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4.1 General site character

Habitat class	% Cover
N04	14.00
N02	14.00
N23	1.00
N16	1.00
N10	5.00
N07	2.00
N05	14.00
N03	1.00
N01	34.00

N08	12.00
N22	1.00
N06	1.00
Total Habitat Cover	100

Other Site Characteristics

This large site, located along the northern coast of Co. Donegal, is of value for the wide range of maritime and sub-maritime habitats present. The main habitats are sea-cliffs, beach (both shingle and sandy) and dry heath, with smaller areas of sand dune, machair, tidal mud flats, salt marsh and deciduous woodland. Cliff and outcropping rock is frequent throughout the site with quartzite being the predominant rock type, although small areas with schist and granite bedrock also occur. The coastline close to Malin Head provides some of the best examples of late-glacial marine strandlines in Ireland and thus is of great interest from a geomorphological perspective. The main landuse within the site is grazing, particularly by sheep, with amenity pressure high in the parts of the site with sand dune and machair.

4.2 Quality and importance

The most important habitats within the site are the priority Annex I habitats fixed dune and machair, which are of moderate quality. The large areas of other Annex 1 habitats, particularly vegetated sea cliff, shingle beach and intertidal sand and mud flats, are of good quality. The habitats support a large number of important and sometimes rare plant and animal species. The site contains a large proportion of the national population of the Red Data Book plant species Mertensia maritima and Ligusticum scoticum, while other nationally rare species such as Silene acaulis and Crambe maritima have been recorded in the past. Important populations of the Annex I Bird Directive species Branta leucopsis, Falco peregrinus and Pyrrhocorax pyrrhocorax occur. Several species of seabirds breed on the cliffs, while Trawbreaga Bay attracts moderate numbers of wintering waterfowl, including Branta bernicla hrota, in internationally important numbers. Lutra lutra occurs regularly within the site.

4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts			
Rank	**Threats and pressures [code]**	**Pollution (optional) [code]**	**inside/outside [i|o|b]**
H	A04.03		i
H	C01.01.02		i
H	D03.01.03		i
H	G01		i
H	G03		i

Positive Impacts			
Rank	**Activities, management [code]**	**Pollution (optional) [code]**	**inside/outside [i|o|b]**
H	A04.02.01		i

Rank: H = high, M = medium, L = low
Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification, T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions
i = inside, o = outside, b = both

4.4 Ownership (optional)

No information provided

4.5 Documentation (optional)

Bassett, J.A. & Curtis T.G.F. (1985). The nature and occurrence of sand-dune machair in Ireland. Proceedings of the Royal Irish Academy 85B: 1-20. Berrow, S.D., Mackie, K.L., O. Sullivan, O., Shepperd, K.B., Mellon, C, Coveney, J.A. (1993). The second International Chough Survey in Ireland, 1992. Irish Birds 5: 1-10. Colhoun, K. (1998). I-WeBS Report 1996-97. BirdWatch Ireland, Dublin. Curtis, T.G.F. (1991a). A site inventory of the sandy coasts of Ireland. In Quigley, M.B. (ed.) A Guide to the Sand Dunes of Ireland. E.U.C.C. Dublin. Curtis, T.G.F. & McGough, H.N. (1988). The Irish Red Data Book: 1 Vascular Plants, Stationary Office, Dublin. Fay, P. (1996). The rare and protected flora of coastal areas in Counties Galway, Mayo, Sligo and Donegal. Unpublished report to the National Parks and Wildlife Service, Dublin. Hannon, C., Berrow, S.D., and Newton S.F. (1997). The status and distribution of breeding Sandwich Sterna sandvicensis, Roseate S. dougallii, Common S. hirundo, Arctic S. paradisaea and Little Terns S. albifrons in Ireland in 1995. Irish Birds 6: 1-22. Hart, H.C. (1898). Flora of County Donegal. Dublin. Lloyd, C. (1982). Inventory of seabird breeding colonies in Republic of Ireland, Unpublished report, Forestry and Wildlife Service, Dublin. Madden, B., Cooney, T., ODonoghue, A., Norriss, D.W. and Merne, O.J. (1998 in press). Breeding waders of machair systems in Ireland in 1996. Irish Birds 6. McConnell, B.J. and Long, C.B. (1997). Geology of North Donegal. A geological description to accompany the bedrock geology 1: 10,000 scale map series, sheet 1 and part of sheet 2, North Donegal. Geological Survey of Ireland, Dublin. Merne, O.J. (1989). Important bird areas in the Republic of Ireland. In: Grimmett, R.F.A. and Jones, T.A. (eds) Important Bird Areas in Europe. ICBP Technical Publication No. 9. Cambridge. Merne, O.J. and Walsh, A. (1994). Barnacle Geese in Ireland, spring 1993 and 1994. Irish Birds 5: 151-156. Perry, K.W. (1975). The Birds of the Inishowen Peninsula. Privately published, Craigavon. Praeger, R.L (1934). The Botanist in Ireland. Hodges Figgis, Dublin. Sheppard, R. (1993). Irelands Wetland Wealth. IWC, Dublin. Stephens, N. and Synge, F.M. (1965). Late Pleistocene shore lines and drift lines in northern Donegal. Proceedings of the Royal Irish Academy Section B: [3]. Walsh, A. and Merne, O.J. (1988). Barnacle Geese in Ireland, spring 1988. Irish Birds 3: 539-550. Whilde, A. (1985). The All Ireland Tern Survey 1984. Unpublished report for the Irish Wildbird Conservancy, Dublin. Young, R. (1973). Report on Areas of Ecological and Geological Interest in County Donegal. An Foras Forbartha, Dublin.

5. SITE PROTECTION STATUS

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5.1 Designation types at national and regional level (optional):

Code	Cover [%]
IE05	13.00

5.2 Relation of the described site with other sites (optional):

Designated at national or regional level:

Type code	Site name	Type	Cover [%]
	Trawbreaga Bay	+	13.00
IE05	Trawbreaga Bay Wildfowl Sanctuary	+	13.00

Designated at international level:

Type	Site name	Type	Cover [%]
Other	Trawbreaga Bay	+	13.00

5.3 Site designation (optional)

No information provided

6. SITE MANAGEMENT

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6.1 Body(ies) responsible for the site management:

No information provided

6.2 Management Plan(s):

An actual management plan does exist:

☐	Yes	
☐	No, but in preparation	
☒	No	

6.3 Conservation measures (optional)

No information provided

7. MAP OF THE SITE

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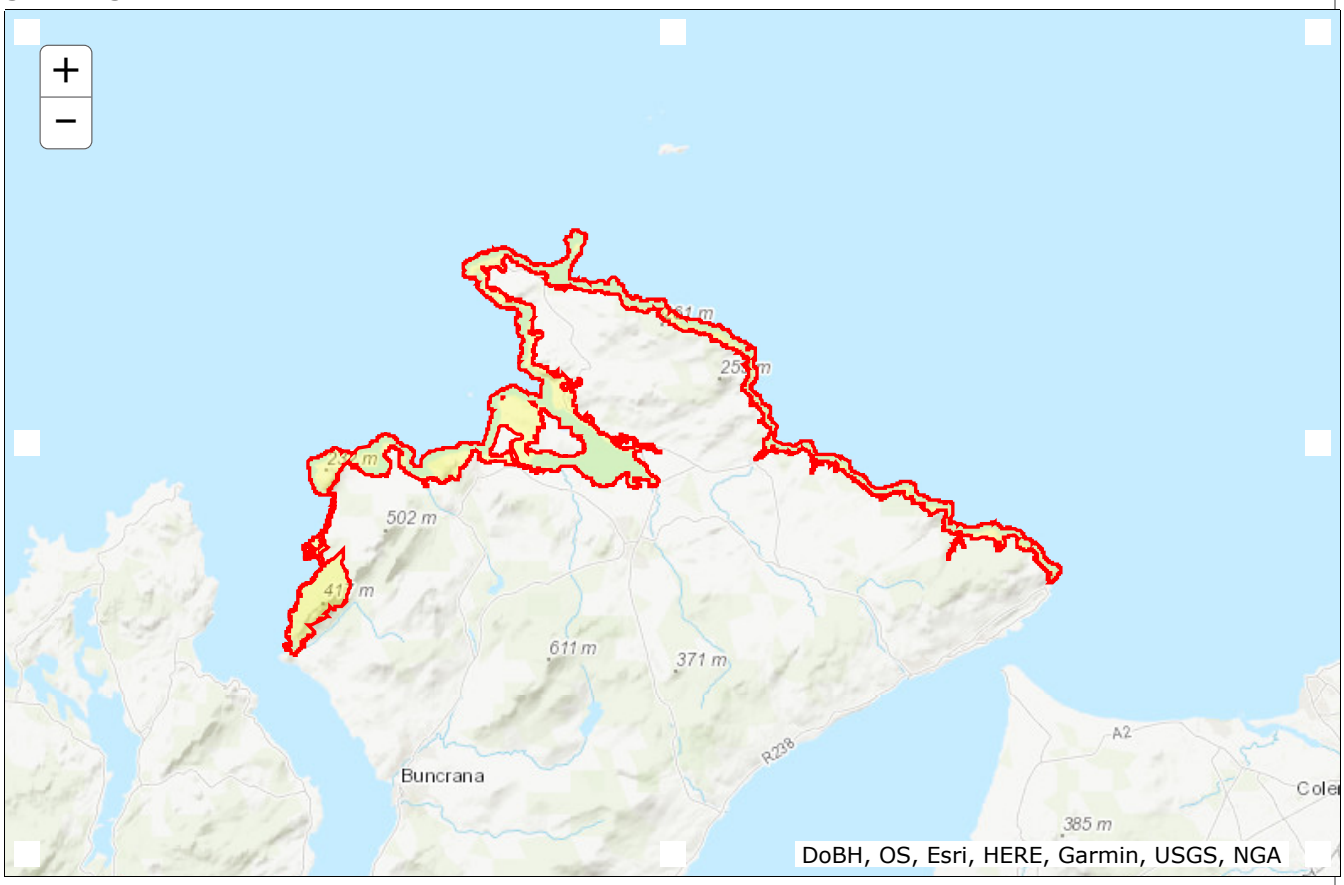
Map delivered as PDF in electronic format (optional)
☐ Yes ☒ No

SITE DISPLAY



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Conservation Objectives Series

North Inishowen Coast SAC 002012

An Roinn
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Arts, Heritage and the Gaeltacht

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Introduction

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Notes/Guidelines:

1. The targets given in these conservation objectives are based on best available information at the time of writing. As more information becomes available, targets for attributes may change. These will be updated periodically, as necessary.
2. An appropriate assessment based on these conservation objectives will remain valid even if the targets are subsequently updated, providing they were the most recent objectives available when the assessment was carried out. It is essential that the date and version are included when objectives are cited.
3. Assessments cannot consider an attribute in isolation from the others listed for that habitat or species, or for other habitats and species listed for that site. A plan or project with an apparently small impact on one attribute may have a significant impact on another.
4. Please note that the maps included in this document do not necessarily show the entire extent of the habitats and species for which the site is listed. This should be borne in mind when appropriate assessments are being carried out.
5. When using these objectives, it is essential that the relevant backing/supporting documents are consulted, particularly where instructed in the targets or notes for a particular attribute.

Qualifying Interests

**** indicates a priority habitat under the Habitats Directive***

002012	North Inishowen Coast SAC
1014	Narrow-mouthed Whorl Snail *Vertigo angustior*
1140	Mudflats and sandflats not covered by seawater at low tide
1220	Perennial vegetation of stony banks
1230	Vegetated sea cliffs of the Atlantic and Baltic coasts
1355	Otter *Lutra lutra*
2130	Fixed coastal dunes with herbaceous vegetation (grey dunes)*
21A0	Machairs (* in Ireland)
4030	European dry heaths

Please note that this SAC overlaps with Trawbreaga Bay SPA (004034) and Malin Head SPA (004146). See map 2. The conservation objectives for this site should be used in conjunction with those for overlapping sites as appropriate.

Supporting documents, NPWS reports and publications are available for download from: www.npws.ie/Publications

NPWS Documents

Year :	1996
Title :	Biomar survey of Irish machair sites
Author :	Crawford, I.; Bleasdale, A.; Conaghan, J.
Series :	Irish Wildlife Manual No. 3
Year :	1998
Title :	An inventory of Mollusca in potential SAC sites with special reference to *Vertigo angustior*, *V. moulinsiana* and *V. geyeri*: 1998 survey
Author :	Moorkens, E.
Series :	Unpublished report to NPWS
Year :	1999
Title :	National Shingle Beach Survey of Ireland 1999
Author :	Moore, D.; Wilson, F.
Series :	Unpublished Report to NPWS
Year :	2006
Title :	Otter survey of Ireland 2004/2005
Author :	Bailey, M.; Rochford, J.
Series :	Irish Wildlife Manual No. 23
Year :	2007
Title :	A Survey of Intertidal Mudflats and Sandflats in Ireland
Author :	Aquatic Services Unit
Series :	Unpublished report to NPWS
Year :	2007
Title :	Supporting documentation for the Habitats Directive Conservation Status Assessment - backing documents. Article 17 forms and supporting maps
Author :	NPWS
Series :	Unpublished report to NPWS
Year :	2009
Title :	Coastal Monitoring Project 2004-2006
Author :	Ryle, T.; Murray, A.; Connolly, K.; Swann, M.
Series :	Unpublished report to NPWS
Year :	2009
Title :	Saltmarsh monitoring project 2007-2008
Author :	McCorry, M.; Ryle, T.
Series :	Unpublished report to NPWS
Year :	2011
Title :	National survey and assessment of the conservation status of Irish sea cliffs
Author :	Barron, S.J.; Delaney, A.; Perrin, P.M.; Martin, J.; O'Neill, F.
Series :	Irish Wildlife Manual No. 53
Year :	2011
Title :	Monitoring and condition assessment of populations of *Vertigo geyeri*, *Vertigo angustior* and *Vertigo moulinsiana* in Ireland
Author :	Moorkens, E.; Killeen, I.
Series :	Irish Wildlife Manual No. 55

Year :	2013
Title :	National otter survey of Ireland 2010/12
Author :	Reid, N.; Hayden, B.; Lundy, M.G.; Pietravalle, S.; McDonald, R.A.; Montgomery, W.I.
Series :	Irish Wildlife Manual No. 76
Year :	2013
Title :	Monitoring survey of Annex I sand dune habitats in Ireland
Author :	Delaney, A.; Devaney, F.M; Martin, J.M.; Barron, S.J.
Series :	Irish Wildlife Manual No. 75
Year :	2014
Title :	Guidelines for a national survey and conservation assessment of upland vegetation and habitats in Ireland, Version 2.0
Author :	Perrin, P.M.; Barron, S.J.; Roche, J.R.; O'Hanrahan, B.
Series :	Irish Wildlife Manual No. 79
Year :	2014
Title :	North Inishowen Coast SAC (site code: 2012) Conservation objectives supporting document-marine habitats V1
Author :	NPWS
Series :	Conservation objectives supporting document
Year :	2014
Title :	North Inishowen Coast SAC (site code: 2012) Conservation objectives supporting document-coastal habitats V1
Author :	NPWS
Series :	Conservation objectives supporting document

Other References

Year :	1982
Title :	Otter survey of Ireland
Author :	Chapman, P.J.; Chapman, L.L.
Series :	Unpublished report to Vincent Wildlife Trust
Year :	1991
Title :	The spatial organization of otters (*Lutra lutra*) in Shetland
Author :	Kruuk, H.; Moorhouse, A.
Series :	J. Zool, 224: 41-57
Year :	2006
Title :	Otters - ecology, behaviour and conservation
Author :	Kruuk, H.
Series :	Oxford University Press
Year :	2006
Title :	The vegetation of Irish machair
Author :	Gaynor, K.
Series :	Biology and Environment: Proceedings of the Royal Irish Academy, vol 106B, No. 3: 311-321
Year :	2008
Title :	The phytosociology and conservation value of Irish sand dunes
Author :	Gaynor, K.
Series :	Unpublished PhD thesis, National University of Ireland, Dublin

Year :	2010
Title :	Otter tracking study of Roaringwater Bay
Author :	De Jongh, A.; O'Neill, L.
Series :	Unpublished draft report to NPWS
Year :	2013
Title :	Benthic survey services framework- Trawbreaga Bay intertidal surveys 2009 & 2010
Author :	RPS
Series :	Unpublished report to the Marine Institute and NPWS

Spatial data sources

Year :	Interpolated 2014
Title :	Intertidal surveys 2007, 2009, 2010
GIS Operations :	Polygon feature classes from marine community types base data sub-divided based on interpolation of marine survey data. Expert opinion used as necessary to resolve any issues arising
Used For :	1140, Marine community types (maps 3 and 4)
Year :	2005
Title :	OSi Discovery series vector data
GIS Operations :	High water mark (HWM) and low water mark (LWM) polyline feature classes converted into polygon feature classes and combined; EU Annex I Saltmarsh and Coastal data erased out if present
Used For :	Marine community types base data (map 4)
Year :	2011
Title :	National survey and assessment of the conservation status of Irish sea cliffs
GIS Operations :	Clipped to SAC boundary
Used For :	1230 (map 5)
Year :	Revision 2014
Title :	National Shingle Beach Survey
GIS Operations :	Clipped to SAC boundary. Expert opinion used as necessary to resolve any issues arising
Used For :	1220 (map 6)
Year :	2009
Title :	Coastal Monitoring Project 2004-2006. Version 1
GIS Operations :	QIs selected; clipped to SAC boundary; overlapping regions with Saltmarsh CO data investigated and resolved with expert opinion used
Used For :	2130, 21A0 (map 6)
Year :	2013
Title :	Sand Dune Monitoring Project 2011. Version 1
GIS Operations :	QIs selected; clipped to SAC boundary; overlapping regions with Saltmarsh CO data investigated and resolved with expert opinion used
Used For :	2130, 21A0 (map 6)
Year :	2012
Title :	NPWS rare and threatened species database
GIS Operations :	Dataset created from spatial references in database records. Expert opinion used as necessary to resolve any issues arising
Used For :	1014 (map 7)
Year :	2005
Title :	OSi Discovery series vector data
GIS Operations :	Creation of an 80m buffer on marine side of high water mark (HWM); creation of a 10m buffer on terrestrial side of the HWM; combination of 80m and 10m HWM buffer datasets; creation of a 10m buffer on terrestrial side of river banks data. Datasets combined with derived EPA WFD Waterbodies data for the 1355 CO. Overlapping regions investigated and resolved; resulting dataset clipped to SAC boundary. Expert opinion used as necessary to resolve any issues arising. Creation of 250m buffer on marine side of HWM to highlight potential commuting points
Used For :	1355 (map 8)
Year :	2010
Title :	EPA WFD Waterbodies data
GIS Operations :	Creation of a 20m buffer to river and stream centreline data; creation of 80m buffer on aquatic side of lake data; creation of 10m buffer on terrestrial side of lake data. Datasets combined with derived OSi data for the 1355 CO. Overlapping regions investigated and resolved; resulting dataset clipped to SAC boundary. Expert opinion used as necessary to resolve any issues arising
Used For :	1355 (map 8)

1140 Mudflats and sandflats not covered by seawater at low tide

To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in North Inishowen Coast SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes. See map 3	Habitat area was estimated using OSi data as 988ha
Community extent	Hectares	Maintain the extent of the *Zostera*-dominated community, subject to natural processes. See map 4	Based on an intertidal walkover undertaken in 2013. See marine supporting document for further details
Community structure: *Zostera* density	Shoots/m²	Conserve the high quality of the *Zostera*-dominated community, subject to natural processes	Based on an intertidal walkover undertaken in 2013. See marine supporting document for further details
Community distribution	Hectares	Conserve the following community types in a natural condition: Fine to medium sand with *Eurydice pulchra* community complex; Muddy sand to coarse sediment with *Pygospio elegans* community complex; Sand with *Angulus tenuis* and *Scoloplos* (*Scoloplos*) *armiger* community complex. See map 4	Based on intertidal surveys undertaken in 2007 (ASU, 2007), 2009 and 2010 (RPS, 2013). See marine supporting document for further details

1220 Perennial vegetation of stony banks

To maintain the favourable conservation condition of Perennial vegetation of stony banks in North Inishowen Coast SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-sites mapped: Culdaff - 0.02ha; Doagh Isle - 1.21ha; Lag - 0.09ha; Lenankeel - 0.01ha; White Strand - 1.33ha. See map 6	Entire area within the SAC is unknown. 18 sub-sites (Tramone Bay; Slievebane; Bulbin; Portmore; Bulbinbeg; Esky Bay; Pebble Strand; Ineuran Bay; Whitestrand Bay; Whitestrand Bay - Culoort; Back Strand; Doaghmore Point; Lagacurry, Doagh Strand, Bincree, Binderg; Pollan Bay; Tullagh Bay and Tullan Point; Rockstown Harbour; Dunaff Bay; Lehan Bay) were surveyed during the National Shingle Beach Survey (NSBS) (Moore and Wilson, 1999) but extent is not recorded. The habitat was also recorded and mapped by the Coastal Monitoring Project (CMP) at Culdaff; Doagh Isle; Lag; Lenankeel and White Strand sub-sites, covering a total area of 3.46ha (Ryle et al., 2009). See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes. See map 6 for surveyed locations	Complete distribution currently unknown. The best shingle formations in the county are found on the Inishowen Peninsula and on Doagh Isle (Moore and Wilson, 1999). See coastal habitats supporting document for further details
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	Based on data from Moore and Wilson (1999). Shingle features are relatively stable in the long term. See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Based on data from Moore and Wilson (1999). Transitions from shingle to intertidal shingle, rocky shore, shingle-based grassland, cliff, sand dunes and machair occur in this SAC. See coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain the presence of species-poor communities with typical species: sea sandwort (*Honckenya peploides*), sea beet (*Beta vulgaris* ssp *maritima*), rock samphire (Crithmum maritimum), sea mayweed (*Tripleurospermum maritimum*), yellow-horned poppy (*Glaucium flavum*) and sea campion (*Silene uniflora*)	Based on data from Moore and Wilson (1999). Lichens were recorded at White Strand Bay-Culoort, Doaghmore Point, Tullagh Bay and Tullagh Point and Rockstown Harbour and are an indication of stabilisation. All sub-sites containing the habitat were rated of high interest except Doaghmore Point which was rated medium interest owing to damage caused by extraction. The rare and protected oysterplant (*Mertensia maritima*) was recorded at two sub-sites: White Strand Bay-Culoort and Tullagh Bay and Tullagh Point. See coastal habitats supporting document for further details
Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-natives) to represent less than 5% cover	Based on data from Moore and Wilson (1999). Negative indicators include non-native species indicative of changes in nutrient status and species not considered characteristic of the habitat. Negative indicators include non-native species, species indicative of changes in nutrient status and species not considered characteristic of the habitat. The negative indicator species, ragwort (*Senecio jacobaea*) and montbretia (*Crocosmia x crocosmiiflora*) were recorded in vegetated shingle at White Strand by Ryle et al. (2009) See coastal habitats supporting document for further details

1230 Vegetated sea cliffs of the Atlantic and Baltic coasts

To maintain the favourable conservation condition of Vegetated sea cliffs of the Atlantic and Baltic coasts in North Inishowen Coast SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat length	Kilometres	Area stable, subject to natural processes, including erosion. For sub-sites mapped: Glengad - 21.5km; Altnadarrow - 4.4km; Binbane - 1.2km; Carrickabraghy - 1.9km; Binnion - 3.3km; Dunaff - 6.4km; Lenan - 0.7km; Lederg - 3.7km; Mossy Glen - 15.7km; Tirmacroragh - 5.6km; Stookanillar and Five Fingers - 3.3km. See map 5	Based on data from the Irish Sea Cliff Survey (ISCS) (Barron et al., 2011). 11 sub-sites were identified using a combination of aerial photos and the DCENR helicopter viewer. Two of the sub-sites at Stookanillar and Five Fingers, and Dunaff were surveyed in the field by the ISCS and assessed using remote survey methodology. A further undocumented site at Dunree was also identified. Cliffs are linear features and are therefore measured in kilometres. Total length of cliff section mapped within SAC: 68.0km. Length of cliff likely to be underestimated. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline, subject to natural processes. See map 5	Based on data from Barron et al. (2011). Cliffs are distributed throughout the SAC with the best examples to be found in the west of the site (Dunree to Leenan Head and Dunaff Head) and in the area north-west of Glengad Head. Hard cliffs are the dominant cliff type, however occasional soft cliffs were also recorded within the site. See coastal habitats supporting document for further details
Physical structure: functionality and hydrological regime	Occurrence of artificial barriers	No alteration to natural functioning of geomorphological and hydrological processes due to artificial structures	Based on data from Barron et al. (2011). Maintaining natural geomorphological processes including natural erosion is important for the health of a vegetated sea cliff. Hydrological processes maintain flushes and in some cases tufa formations that can be associated with sea cliffs. Within this SAC, hydrological features, such as gullies, streams and cascades, were associated with the following sub-sites: Mossy Glen, Stookanillar and Five Fingers, Binnion, Dunaff, Lenan, Lederg, Tirmacroragh and Glengad. See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain range of sea cliff habitat zonations including transitional zones, subject to natural processes including erosion and succession	Based on data from Barron et al. (2011). At Stookanillar and Five Fingers the following zones were recorded: scree, crevice ledge, heath and grazed coastal grassland on hard cliffs. At Dunaff three zones were recorded: Splash zone, crevice ledge and ungrazed coastal grassland on hard cliffs. See coastal habitats supporting document for further details
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within sward	Based on data from Barron et al. (2011). See coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain range of sub-communities with typical species listed in the Irish Sea Cliff Survey (Barron et al., 2011)	Based on data from Barron et al. (2011). Rare species that occur on sea cliffs at this SAC include Scot's lovage (*Ligusticum scoticum*), moss campion (*Silene acaulis*), purple saxifrage (*Saxifraga oppositifolia*), ivy broomrape (*Orobanche hederae*) and roseroot (*Sedum rosea*). See coastal habitats supporting document for further details
Vegetation composition: negative indicator species	Percentage	Negative indicator species (including non-natives) to represent less than 5% cover	Based on data from Barron et al. (2011). See coastal habitats supporting document for further details

Vegetation composition: bracken and woody species	Percentage	Cover of bracken (*Pteridium aquilinum*) on grassland and/or heath less than 10%. Cover of woody species on grassland and/or heath less than 20%	Based on data from Barron et al. (2011). See coastal habitats supporting document for further details

2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)

To restore the favourable conservation condition of Fixed coastal dunes with herbaceous vegetation ('grey dunes') in North Inishowen Coast SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area increasing, subject to natural processes including erosion and succession. For sub-sites mapped: Crummies Bay - 11.92ha; Culdaff - 17.03ha; Doagh Isle - 324.53ha; Lag - 103.17ha; Lenankeel - 6.27ha; Tullagh - 30.81ha; White Strand - 2.33ha. See map 6	Based on data from the Coastal Monitoring Project (CMP) (Ryle et al., 2009) and the Sand Dunes Monitoring Project (SDM) (Delaney et al., 2013). Habitat was mapped at seven sub-sites, giving a total estimated area of 496.06ha. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes. See map 6 for known distribution	Based on data from Ryle et al. (2009) and Delaney et al. (2013). Fixed dunes were recorded at all of the seven sub-sites. See coastal habitats supporting document for further details
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	Based on data from Ryle et al. (2009) and Delaney et al. (2013). Physical barriers can lead to fossilisation or over-stabilisation of dunes, as well as beach starvation resulting in increased rates of erosion. At Lenankeel, rock armour affects the natural build up of the sand dune system. Extraction was noted from Tullagh and Doagh Isle sub-sites. Coastal protection works at Lag will cause a disruption to the natural functioning of the system over the longterm. See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Based on data from Ryle et al. (2009) and Delaney et al. (2013). See coastal habitats supporting document for further details
Vegetation structure: bare ground	Percentage cover	Bare ground should not exceed 10% of fixed dune habitat, subject to natural processes	Based on data from Gaynor (2008), Ryle et al. (2009) and Delaney et al. (2013). See coastal habitats supporting document for further details
Vegetation structure: sward height	Centimetres	Maintain structural variation within sward	Based on data from Ryle et al. (2009) and Delaney et al. (2013). At Crummies Bay, the absence of grazers has produced a rank sward with low species diversity. At Tullagh, heavy grazing and poaching occur. Undergrazing is a feature of Culdaff. Both undergrazing and over grazing occur at Doagh Isle. See coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain range of sub-communities with typical species listed in Delaney et al. (2013)	Based on data from Gaynor (2008), Ryle et al. (2009) and Delaney et al. (2013). The seven sub-sites support a characteristic dune flora. See coastal habitats supporting document for further details

Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-natives) to represent less than 5% cover	Based on data from Ryle et al. (2009) and Delaney et al. (2013). Negative indicators include non-native species, species indicative of changes in nutrient status and species not considered characteristic of the habitat. Sea-buckthorn (*Hippophae rhamnoides*) should be absent or effectively controlled. Negative indicator species bracken (*Pteridium aquilinum*) and montbretia (*Crocosmia x crocosmiiflora*) were recorded at Culdaff. At Lagg, creeping thistle (*Cirsium arvense*) and nettle (*Urtica dioica*) were associated with ring feeders. At Tullagh, bracken (*Pteridium aquilinuim*) occurs in the fixed dune. See coastal habitats supporting document for further details
Vegetation composition: scrub/trees	Percentage cover	No more than 5% cover or under control	Based on data from Ryle et al. (2009) and Delaney et al. (2013). At Culdaff there are several areas of dense scrub. Scrub also occurs in wet and dry areas at Crummies Bay. See coastal habitats supporting document for further details

21A0 Machairs (* in Ireland)

To restore the favourable conservation condition of Machairs in North Inishowen Coast SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes including erosion and succession. For sub-sites mapped: Doagh Isle - 90.11ha; Lenankeel - 12.15ha; Tullagh - 15.42ha, White Strand - 0.25ha. See map 6	Based on data from the Coastal Monitoring Project (CMP) (Ryle et al., 2009) and the Sand Dunes Monitoring Project (SDM) (Delaney et al., 2013). Four sub-sites (Doagh Isle, Lenankeel, Tullagh and White Strand) were mapped, giving a total estimated area of 117.96ha. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline or change in habitat distribution, subject to natural processes. See map 6 for known distribution	The largest machair site is at Doagh Isle. See coastal habitats supporting document for further details
Physical structure: functionality and sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	Based on data from Ryle et al. (2009) and Delaney et al. (2013). Physical barriers can lead to fossilisation or over-stabilisation of dunes, as well as beach starvation resulting in increased rates of erosion. At Lenankeel, rock armour affects the natural build up of the sand system. Extraction was noted from Tullagh and Doagh Isle sub-sites. See coastal habitats supporting document for further details
Physical structure: hydrological and flooding regime	Water table levels; groundwater fluctuations (metres)	Maintain natural hydrological regime	Based on data from Ryle et al. (2009), Delaney et al. (2013), Crawford et al. (1996) and Gaynor (2006). See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Based on data from Ryle et al. (2009) and Delaney et al. (2013). See coastal habitats supporting document for further details
Vegetation structure: bare ground	Percentage cover	Bare ground should not exceed 10% of machair habitat, subject to natural processes	Based on data from Ryle et al. (2009) and Delaney et al. (2013). See coastal habitats supporting document for further details
Vegetation structure: sward height	Centimeters	Maintain structural variation within sward	Based on data from Ryle et al. (2009) and Delaney et al. (2013). At Tullagh, heavy grazing and poaching occur. Both undergrazing and overgrazing occur at Doagh Isle. See coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain range of sub-communities with typical species listed in Delaney et al. (2013)	Based on data from Gaynor (2008), Ryle et al. (2009) and Delaney et al. (2013). The four sub-sites support a characteristic machair flora. See coastal habitats supporting document for further details
Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-natives) to represent less than 5% cover	Based on data from Ryle et al. (2009) and Delaney et al. (2013). Negative indicators include non-native species, species indicative of changes in nutrient status and species not considered characteristic of the habitat. See coastal habitats supporting document for further details
Vegetation composition: bryophytes	Percentage cover	Should always be at least an occasional component of the vegetation	Based on data from Ryle et al. (2009) and Delaney et al. (2013). See coastal habitats supporting document for further details

4030 European dry heaths

To maintain the favourable conservation condition of European dry heaths in North Inishowen Coast SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Habitat area	Hectares	Area stable or increasing, subject to natural processes	Total area of this habitat has not been calculated, but estimated to cover more than 10% of the SAC. It occurs in mosaic with other habitats such as wet heath/blanket bog and exposed rock (NPWS internal files) and is a component of the vegetation of the Annex I habitat: Vegetated sea cliffs of the Atlantic and Baltic coasts (1230)- see the coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline from current habitat distribution, subject to natural processes	The heath in this SAC is widely distributed along the hard coastline and also occurs at higher altitudes such as on Binnion, Urris and Dunaff Hills (NPWS internal files)
Ecosystem function: soil nutrient status	Soil pH and nutrient levels at a representative number of monitoring stops	Maintain soil nutrient status within natural range	Changes to soil nutrient status can occur from high stock densities or supplementary feeding above appropriate levels
Vegetation composition: positive indicator species	Number and percentage cover at a representative number of monitoring stops	At least two positive indicator species, as listed in Perrin et al. (2014), with combined cover of at least 50%	Attribute and target based on Perrin et al. (2014). Bell heather (*Erica cinerea*), ling (*Calluna vulgaris*), crowberry (*Empetrum nigrum*) and bilberry (*Vaccinium myrtillus*) are listed for the heath in this SAC (NPWS internal files)
Vegetation composition: bryophyte and non-crustose lichen species	Number at a representative number of monitoring stops	At least three bryophyte or non-crustose lichen species present, excluding *Campylopus* and *Polytrichum* moss species	Attribute and target based on Perrin et al. (2014)
Vegetation composition: rare/scarce species	Occurrence and population size	No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat	
Vegetation composition: dwarf-shrub species	Percentage cover at a representative number of monitoring stops	Cover of bog myrtle (*Myrica gale*), creeping willow (*Salix repens*) and Western gorse (*Ulex gallii*) collectively less than 50%	Attribute and target based on Perrin et al. (2014)
Vegetation composition: negative indicator weed species	Pecentage cover at a representative number of monitoring stops	Cover of negative indicator weed species collectively less than 1%	Attribute and target based on Perrin et al. (2014) where weed species are also listed
Vegetation composition: non-native species	Pecentage cover at a representative number of monitoring stops and in local vicinity	Cover of non-native species less than 1%	Attribute and target based on Perrin et al. (2014)
Vegetation structure: native trees and shrubs	Pecentage cover in local vicinity	Cover of scattered native trees and shrubs less than 20%	Attribute and target based on Perrin et al. (2014)
Vegetation composition: bracken	Percentage cover in local vicinity	Cover of bracken (*Pteridium aquilinum*) less than 10%	Attribute and target based on Perrin et al. (2014)
Vegetation composition: soft rush	Percentage cover in local vicinity	Cover of soft rush (*Juncus effusus*) less than 10%	Attribute and target based on Perrin et al. (2014). Dense areas of soft rush can indicate disturbance
Vegetation structure: senescent ling	Percentage cover at a representative number of monitoring stops	Senescent proportion of ling (*Calluna vulgaris*) cover, less than 50%	Attribute and target based on Perrin et al. (2014)

Vegetation structure: growth phases of ling	Percentage cover in local vicinity	Outside boundaries of sensitive areas, all growth phases of ling (*Calluna vulgaris*) should occur throughout, with at least 10% of cover in mature phase	Attribute and target based on Perrin et al. (2014), where sensitive areas and growth phases are defined
Vegetation structure: signs of browsing	Percentage cover at a representative number of monitoring stops	Last complete growing season's shoots of ericoids showing signs of browsing collectively less than 33%	Attribute and target based on Perrin et al. (2014)
Vegetation structure: burning	Occurrence in local vicinity	No signs of burning inside sensitive areas	Attribute and target based on Perrin et al. (2014), where sensitive areas are defined
Physical structure: disturbed bare ground	Percentage cover at a representative number of monitoring stops and in local vicinity	Cover of disturbed bare ground less than 10% (but if peat soil less than 5%)	Attribute and target based on Perrin et al. (2014)

1014 Narrow-mouthed Whorl Snail *Vertigo angustior*

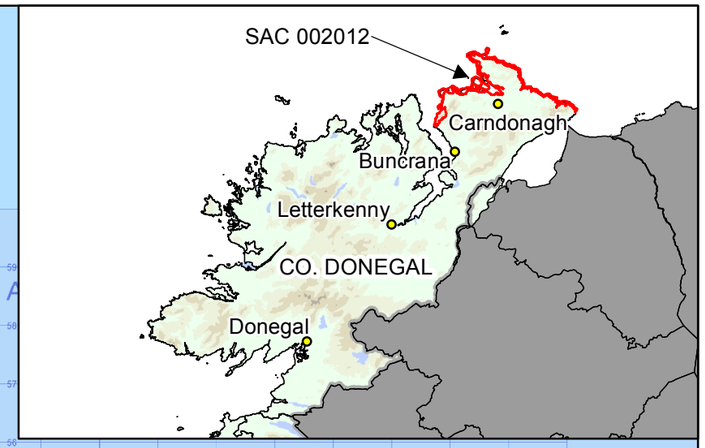
To maintain the favourable conservation condition of Narrow-mouthed Whorl Snail in North Inishowen Coast SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Distribution: occupied sites	Number	No decline. There are two known sites for this species in this SAC, which overlaps with three 1km squares. See map 7	The species has been recorded from the sand dunes in the townlands of Lag and Drung behind Back Strand (site VaCAM12) as well as at Tullagh Bay (Moorkens, 1998; Moorkens and Killeen, 2011)
Presence: sampled locations	Percentage	Adult or sub-adult snails are present at 50% of sampled locations with suitable sub-optimal or better quality habitat at confirmed sites	There are two known sites within this SAC
Presence on transect	Occurrence	Adult or sub-adult snails are present in three of the eight maritime grassland zones on the transect with optimal or sub-optimal habitat	Transect established at Lag as part of condition assessment monitoring at this site (Moorkens and Killeen, 2011). See habitat extent target below for definition of optimal and sub-optimal habitat
Abundance	Number per sample	At least two samples on the transect should have more than 20 *V. angustior* individuals	From Moorkens and Killeen (2011)
Transect habitat quality	Metres	At least 40m of habitat along the transect is classed as optimal and at least another 55m as sub-optimal or optimal	From Moorkens and Killeen (2011). See habitat extent target below for definition of optimal and sub-optimal habitat
Transect optimal wetness	Metres	Soils, at time of sampling, are damp (optimal wetness) and covered with a layer of humid thatch for at least 55m along the transect	From Moorkens and Killeen (2011)
Habitat extent	Hectares	At least 30-35ha of the site at Lag/Drung comprises a mosaic of sub-optimal and optimal habitat. Adequate suitable habitat should also be present at Tullagh Bay	Optimal habitat is defined as fixed dune, species-rich grassland dominated by red fescue (*Festuca rubra*) and marram grass (*Ammophila arenaria*), with sparse lady's bedstraw (*Galium verum*), mouse-ear-hawkweed (*Pilosella officinarum*) and other low growing herbs. Vegetation height 10-30cm. Habitat growing on damp, friable soil covered with a layer of humid, open structured thatch. Sub-optimal habitat is as optimal habitat but with a higher proportion of white clover (*Trifolium repens*), and either vegetation height is less than 10cm or between 30 and 50cm, or the soil is dry and sandy, or the thatch is wetter with a denser structure. From Moorkens and Killeen (2011). Habitat at Tullagh Bay has not been described in detail

1355 Otter *Lutra lutra*

To maintain the favourable conservation condition of Otter in North Inishowen Coast SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Distribution	Percentage positive survey sites	No significant decline	Measure based on standard otter survey technique. FCS target, based on 1980/81 survey findings, is 88% in SACs. Current range is estimated at 93.6% (Reid et al., 2013)
Extent of terrestrial habitat	Hectares	No significant decline. Area mapped and calculated as 146.6ha above high water mark (HWM); 61.3ha along river banks/ around ponds	No field survey. Areas mapped to include 10m terrestrial buffer along shoreline (above HWM and along river banks) identified as critical for otters (NPWS, 2007)
Extent of marine habitat	Hectares	No significant decline. Area mapped and calculated as 1099.2ha	No field survey. Area mapped based on evidence that otters tend to forage within 80m of the shoreline (HWM) (NPWS, 2007; Kruuk, 2006)
Extent of freshwater (river) habitat	Kilometres	No significant decline. Length mapped and calculated as 30.9km	No field survey. River length calculated on the basis that otters will utilise freshwater habitats from estuary to headwaters (Chapman and Chapman, 1982)
Extent of freshwater (lake/lagoon) habitat	Hectares	No significant decline. Area mapped and calculated as 2.7ha	No field survey. Area mapped based on evidence that otters tend to forage within 80m of the shoreline (NPWS, 2007)
Couching sites and holts	Number	No significant decline	Otters need lying up areas throughout their territory where they are secure from disturbance (Kruuk, 2006; Kruuk and Moorhouse, 1991)
Fish biomass available	Kilograms	No significant decline	Broad diet that varies locally and seasonally, but dominated by fish, in particular salmonids, eels and sticklebacks in freshwater (Bailey and Rochford, 2006; Reid et al., 2013) and wrasse and rockling in coastal waters (Kingston et al., 1999)
Barriers to connectivity	Number	No significant increase. For guidance, see map 8	Otters will regularly commute across stretches of open water up to 500m e.g. between the mainland and an island; between two islands; across an estuary (De Jongh and O'Neill, 2010). It is important that such commuting routes are not obstructed



ATLANTIC OCEA
An tAigéan Atlantach

Malin Head
Cionn Mhálanna

OAGH ISLAND
Oileán na Bumbeha

Trawbreaga Bay
Trá Bhréige

Glengad Head
Cionn Ghleann Gad

Dunaff Head
Cionn Dhún Dathaí

Ballyliffin
Baile Lifín

Clonmany
Cluain Maine

Carndonagh
Carn Domhnach

Culdaff
Cúil Dabhcha

Dunree Head
Cionn an Dúin Riabhaigh

Slieve Snaght
Sliabh Sneachta

Slieve Main

Crockatienna

Greencastle
An Caisleán Nua

Moville
Bun an Phobail

LOUGH FOYLE
Loch Feabhail

Legend

North Inishowen Coast SAC 002012

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Department of Arts, Heritage and the Gaeltacht

MAP 1:
NORTH INISHOWEN COAST SAC
CONSERVATION OBJECTIVES
SAC DESIGNATION

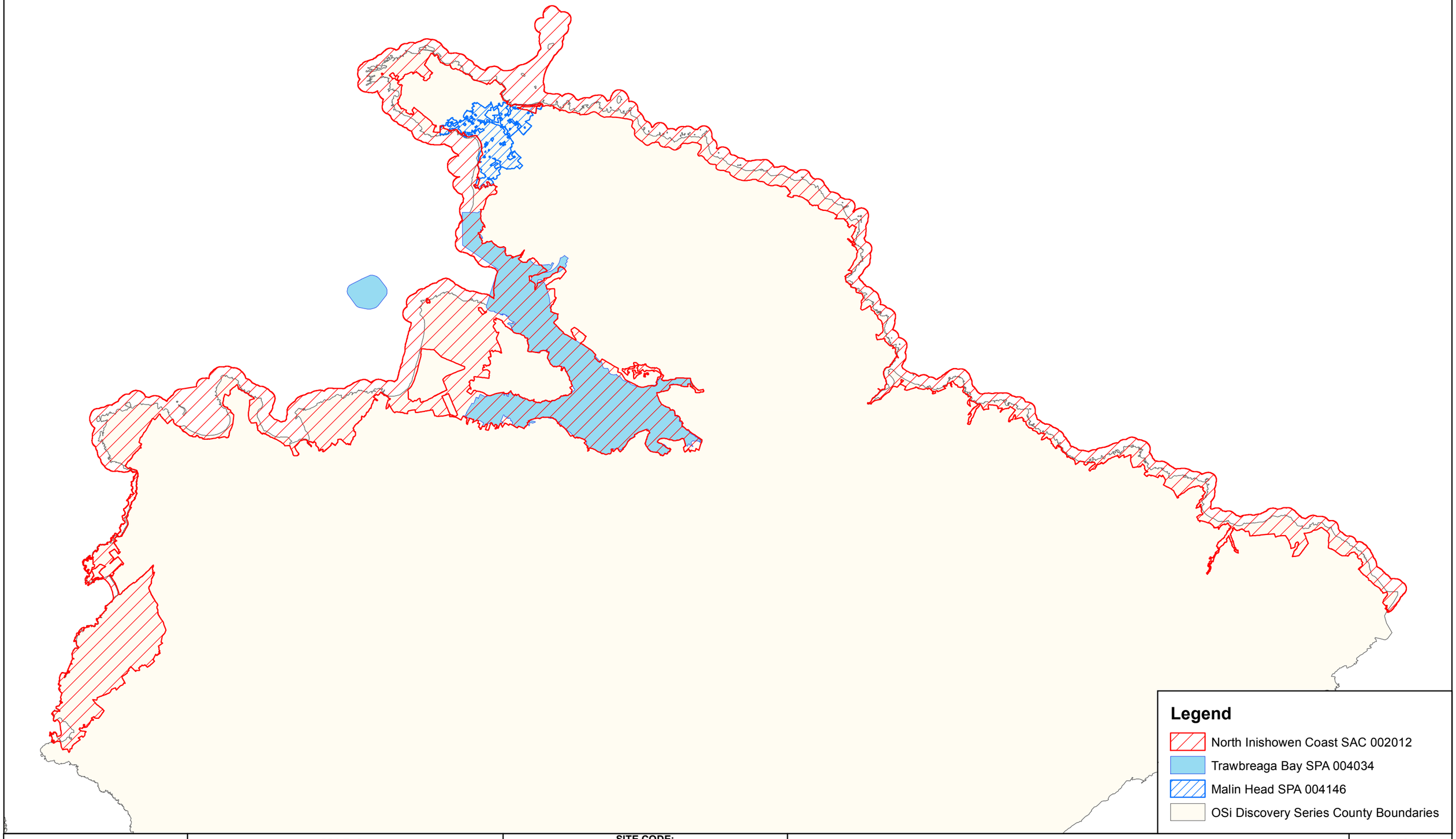
Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SAC 002012; version 3. CO. DONEGAL

0 1 2 3 4 5 km

N

Map Version 1
Date: Nov 2014



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Department of Arts, Heritage and the Gaeltacht

MAP 2:
NORTH INISHOWEN COAST SAC
CONSERVATION OBJECTIVES
ADJOINING / OVERLAPPING DESIGNATIONS

Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SAC 002012; version 3.
SPA 004034; version 1.05,
SPA 004146; version 1.03. CO. DONEGAL

0 1 2 3 4 5 km

N

Map Version 1
Date: Nov 2014

Legend

- North Inishowen Coast SAC 002012
- 1140 Mudflats and sandflats not covered by sea water at low tide
- OSi Discovery Series County Boundaries

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Department of Arts, Heritage and the Gaeltacht

MAP 3:
NORTH INISHOWEN COAST SAC
CONSERVATION OBJECTIVES
TIDAL MUDFLATS AND SANDFLATS

Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SAC 002012; version 3. CO. DONEGAL

0 1 2 3 4 5 km

N

Map Version 1
Date: Nov 2014

Legend

North Inishowen Coast SAC 002012

OSi Discovery Series County Boundaries

Marine Community Types

Fine to medium sand with *Eurydice pulchra* community complex

Muddy sand to coarse sediment with *Pygospio elegans* community complex

Reef community complex

Sand with *Angulus tenuis* and *Scoloplos (Scoloplos) armiger* community complex

Zostera-dominated community

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MAP 4:
NORTH INISHOWEN COAST SAC
CONSERVATION OBJECTIVES
MARINE COMMUNITY TYPES

Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SAC 002012; version 3. CO. DONEGAL

0 1 2 3 4 5 km

N

Map Version 1
Date: Nov 2014

Altnadarrow
Site Id: 03002

Glengad
Site Id: 03042

Binbane
Site Id: 03003

Stookanillar and
Five Fingers
Site Id: 03004

Carrickabraghy
Site Id: 03005

Binnion
Site Id: 03006

Tirmacroragh
Site Id: 03041

Mossy Glen
Site Id: 03001

Dunaff
Site Id: 03007

Lenan
Site Id:03008

Lederg
Site Id: 03009

Dunree

Legend

- North Inishowen Coast SAC 002012
- 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts
- Undocumented 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts
- OSi Discovery Series County Boundary

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MAP 5:
NORTH INISHOWEN COAST SAC
CONSERVATION OBJECTIVES
VEGETATED SEA CLIFFS

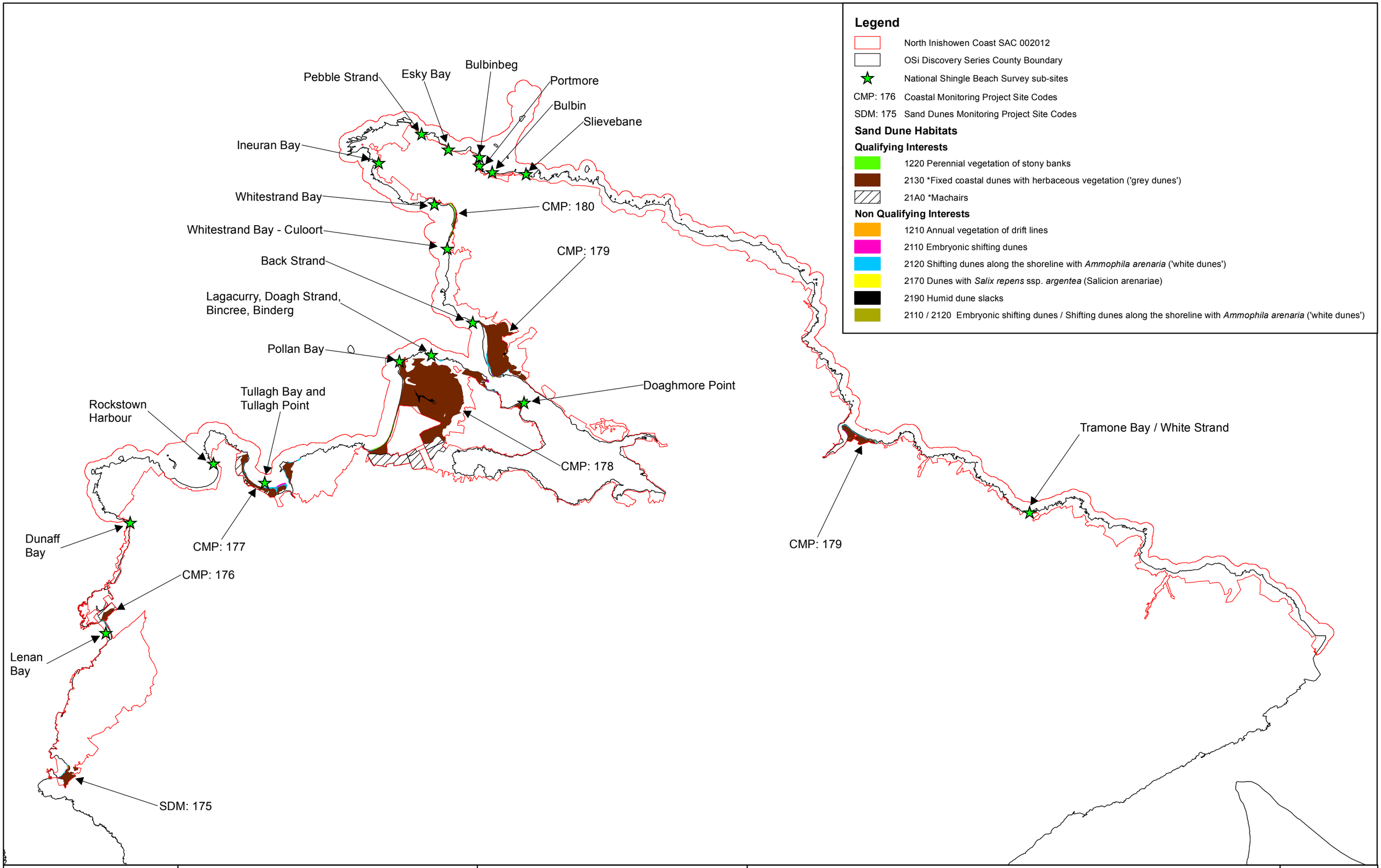
Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SAC 002012; version 3. CO. DONEGAL

0 1 2 3 4 5 km

N

Map Version 1
Date: Nov 2014



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Arts, Heritage and the Gaeltacht

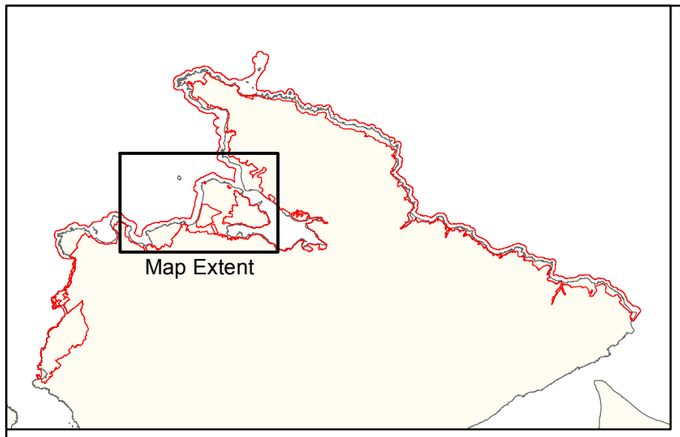
MAP 6:
NORTH INISHOWEN COAST SAC
CONSERVATION OBJECTIVES
SAND DUNE HABITATS &
PERENNIAL VEGETATION OF STONY BANKS
Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SAC 002012; version 3. CO. DONEGAL

0 1 2 3 4 5 km

N

Map Version 1
Date: Nov 2014



C4253

C4252

C3548

Legend

- North Inishowen Coast SAC 002012
- 1014 Narrow-Mouthed Whorl Snail - *Vertigo angustior*
- OSi Discovery Series County Boundary

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MAP 7:
NORTH INISHOWEN COAST SAC
CONSERVATION OBJECTIVES
NARROW-MOUTHED WHORL SNAIL

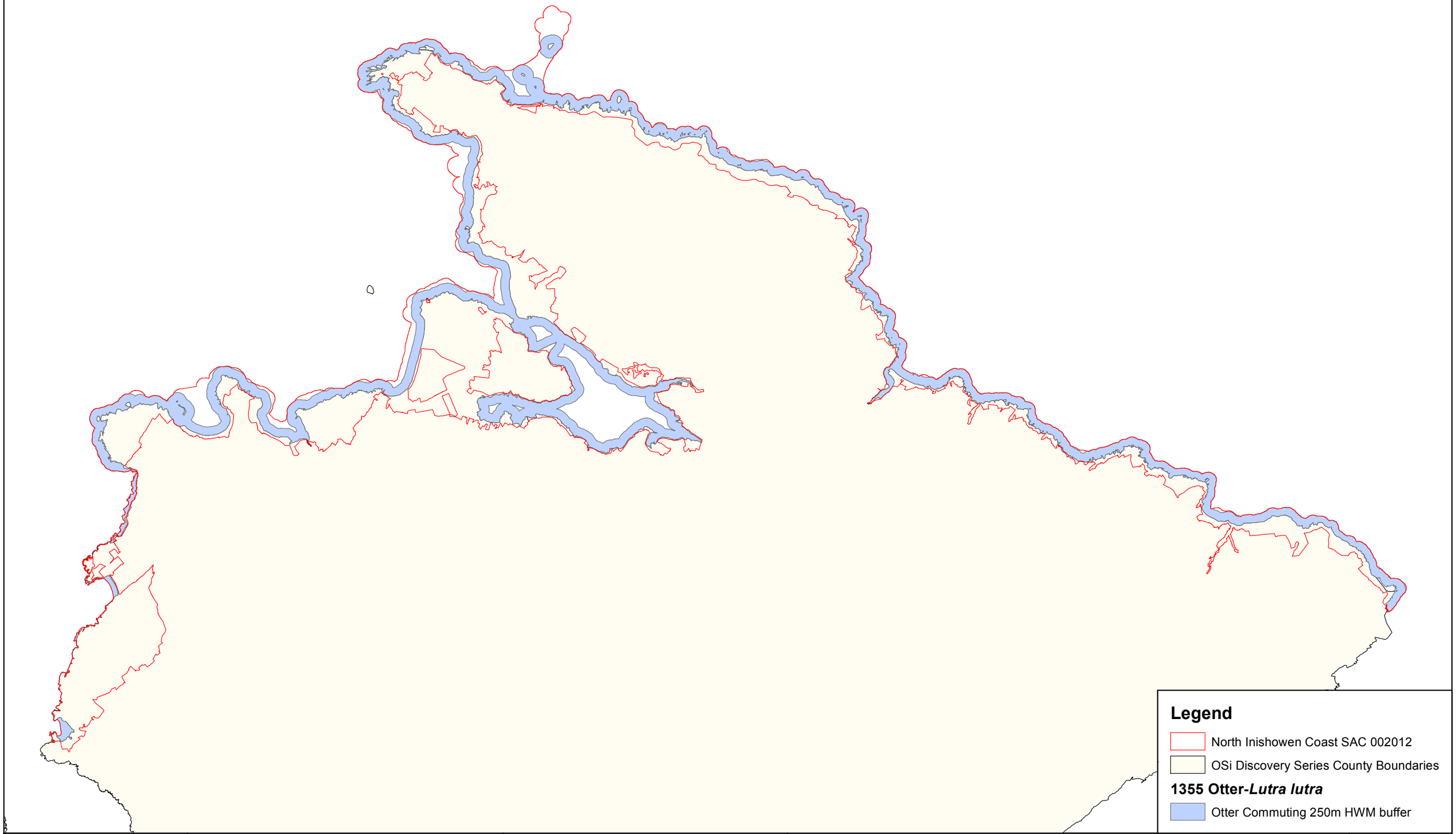
Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SAC 002012; version 3. CO. DONEGAL

0 0.2 0.4 0.6 0.8 1 km

N

Map Version 1
Date: Nov 2014



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MAP 8:
NORTH INISHOWEN COAST SAC
CONSERVATION OBJECTIVES
OTTER COMMUTING

Map to be read in conjunction with the NPWS Conservation Objectives Document.

SITE CODE:
SAC 002012; version 3. CO. DONEGAL

0 1 2 3 4 5 km

N

Map Version 1
Date: Nov 2014

SITE SYNOPSIS

SITE NAME: HORN HEAD TO FANAD HEAD SPA

SITE CODE: 004194

The Horn Head to Fanad Head SPA comprises a number of separate sections of the north Co. Donegal coastline stretching some 70 km eastwards from Dooros Point, south-west of Horn Head to just south of Saldanha Head, south of Fanad Head. The site includes the high coast areas and sea cliffs, land adjacent to the cliff edge and the sand dunes and lake at Dunfanaghy/Rinclevan. The high water mark forms the seaward boundary, except at Horn Head where the adjacent sea area to a distance of 500 m from the cliff base is included. Sea cliffs are present along virtually all the site. Almost all are greater than 10 m in height. They are often over 30 m and rise impressively to over 200 m in a few places. The geology consists of both metamorphic and igneous intrusive rocks. The metamorphic rocks are quartzites and schists. The igneous rocks are silica-rich granites and more the basic dolerites and granodiorites. A small low-lying peninsula of metamorphic limestone occurs at Cloonmass Point and Isle just north of the Ards peninsula.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Chough, Peregrine, Fulmar, Cormorant, Shag, Kittiwake, Guillemot, Razorbill, Greenland White-fronted Goose and Barnacle Goose. The site is also of special conservation interest for holding an assemblage of over 20,000 breeding seabirds.

The site holds an internationally important population of breeding Chough, a Red Data Book species that is listed on Annex I of the E.U. Birds Directive; 20 breeding pairs were recorded from the site in the 1992 survey and 29 in the 2002/03 survey. The sea cliffs on the site provide breeding and roosting sites for the birds whilst the land adjacent to the cliff tops provides feeding habitat. A number of areas slightly further from the coast are used for feeding or flocking, e.g. at Black Burrow near Dooros Point and at Melmore Lough on the Tranarossan Peninsula. The site also holds a large Peregrine population (5 pairs in 2002).

The site is also used by a large assemblage and wide variety of nesting seabirds, the cliffs around Horn Head being of particular importance. The site supports nationally important populations of Fulmar (1,974 pairs), Cormorant (79 pairs), Shag (110 pairs), Kittiwake (3,853 pairs), Guillemot (4,387 pairs) and Razorbill (4,515 pairs). Other species that occur include Black Guillemot (204 individuals), Puffin (189 pairs), Herring Gull (21 pairs), Great Black-backed Gull (5 pairs) and Common Gull (2 pairs) – all seabird data from 1999.

New Lake/Rinclevan and the dunes to the west (west-south-west of Dunfanaghy) support nationally important Greenland White-fronted Goose (231) and Barnacle Goose (187) populations - all figures are 5 year mean peaks, 1995/96-1999/2000. The Greenland White-fronted Goose flock has increased in size since the 1980s. These

are considered to be the birds that formerly frequented blanket bog sites in vicinity of the Calabber River valley. The Barnacle Goose flock is part of an internationally important population that also uses the islands of Inishbofin and Inishdooey. The geese feed on the dune grassland and on intensive grassland. Whooper Swan (31) also occurs regularly, along with a range of other waterfowl species, notably Pochard (234), which are well suited to the shallow lake waters. Other species present include Teal (109), Mallard (87), Tufted Duck (93), Goldeneye (11), Mute Swan (67) and Coot (52) – all figures are 5 year mean peaks for the period 1995/96-1999/2000.

In summer, the site supports a good diversity of breeding waders. A survey in 2009 recorded the following: Lapwing (10 pairs), Snipe (6 pairs), Redshank (1 pair) and Oystercatcher (1 pair). A survey in 1996 also recorded Dunlin (6 pairs) and Common Sandpiper (2 pairs) at the site.

The Horn Head to Fanad Head SPA is of high importance for Chough and Peregrine, both species that are listed on Annex I of the E.U. Birds Directive. It also supports an internationally important assemblage of breeding seabirds, that includes nationally important populations of six species, i.e. Fulmar, Cormorant, Shag, Kittiwake, Guillemot and Razorbill. The Greenland White-fronted Goose and Barnacle Goose populations are also of national importance. Both of these species, as well as Whooper Swan, are listed on Annex I of the E.U. Birds Directive. A good diversity of other wildfowl species occurs. Part of the Horn Head to Fanad Head SPA is a Wildfowl Sanctuary.

Database release: End2021 --- 06/10/2022

SDF

NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA),
Proposed Sites for Community Importance (pSCI),
Sites of Community Importance (SCI) and
for Special Areas of Conservation (SAC)

SITE	**IE0004194**
SITENAME	**Horn Head to Fanad Head SPA**

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- 2. SITE LOCATION
- 3. ECOLOGICAL INFORMATION
- 4. SITE DESCRIPTION
- 5. SITE PROTECTION STATUS
- 6. SITE MANAGEMENT
- 7. MAP OF THE SITE

Print Standard Data Form

1. SITE IDENTIFICATION

Back to top

1.1 Type

A

1.2 Site code

IE0004194

1.3 Site name

Horn Head to Fanad Head SPA

1.4 First Compilation date

2009-07

1.5 Update date

2020-10

1.6 Respondent:

Name/Organisation:	National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht
Address:	

Email:	datadelivery@chg.gov.ie

1.7 Site indication and designation / classification dates

Date site classified as SPA:	2006-11
National legal reference of SPA designation	No information provided

2. SITE LOCATION

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2.1 Site-centre location [decimal degrees]:

Longitude:	-7.931450
Latitude:	55.208392

2.2 Area [ha]

2385.3361

2.3 Marine area [%]

29.1350

2.4 Sitelength [km] (optional):

No information provided

2.5 Administrative region code and name

NUTS level 2 code	Region Name
IE01	Border, Midland and Western

2.6 Biogeographical Region(s)

Atlantic	(0.00 %)

3. ECOLOGICAL INFORMATION

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3.1 Habitat types present on the site and assessment for them

No habitat types are reported for the site

3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Species	Population in the site	Site assessment

G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D.qual.	A|B|C|D	A|B|C		
						Min	Max				Pop.	Con.	Iso.	Glo.
B	A168	Actitis hypoleucos			r	2	2	p		G	C	B	C	C
B	A200	Alca torda			r	4515	4515	p		G	B	A	C	A
B	A052	Anas crecca			w	109	109	i		G	C	B	C	C
B	A053	Anas platyrhynchos			w	87	87	i		G	C	B	C	C
B	A395	Anser albifrons flavirostris			w	231	231	i		G	C	A	C	B
B	A059	Aythya ferina			w	234	234	i		G	C	B	C	C
B	A061	Aythya fuligula			w	93	93	i		G	C	B	C	C
B	A045	Branta leucopsis			w	187	187	i		G	B	A	C	B
B	A149	Calidris alpina			r	6	6	p		G	B	B	C	B
B	A038	Cygnus cygnus			w	31	31	i		G	C	B	C	C
B	A103	Falco peregrinus			p	7	7	p		G	C	B	C	B
B	A204	Fratercula arctica			r	189	189	p		G	C	B	C	C
B	A125	Fulica atra			w	52	52	i		G	C	B	C	C
B	A009	Fulmarus glacialis			r	1974	1974	p		G	B	A	C	A
B	A153	Gallinago gallinago			r	6	6	p		G	C	C	C	C
B	A184	Larus argentatus			r	21	21	p		G	C	B	C	C
B	A018	Phalacrocorax aristotelis			r	110	110	p		G	B	A	C	A
B	A017	Phalacrocorax carbo			r	79	79	p		G	C	B	C	B
B	A346	Pyrrhocorax pyrrhocorax			p	30	30	p		G	B	A	C	B
B	A188	Rissa tridactyla			r	3853	3853	p		G	B	A	C	A
B	A199	Uria aalge			r	4387	4387	p		G	B	A	C	B
B	A142	Vanellus vanellus			r	10	10	p		G	C	C	C	C

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

S: in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes

NP: in case that a species is no longer present in the site enter: x (optional)

Type: p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)

Unit: i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see reference portal)

Abundance categories (Cat.): C = common, R = rare, V = very rare, P = present - to fill if data are deficient (DD) or in addition to population size information

Data quality: G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

3.3 Other important species of flora and fauna (optional)

Species	Population in the site	Motivation

Group	CODE	Scientific Name	S	NP	Size		Unit	Cat.	Species Annex		Other categories			
					Min	Max		C|R|V|P	IV	V	A	B	C	D
B		Cepphus grylle			204	204	i						X	
B		Cygnus olor			67	67	i						X	

Group: A = Amphibians, B = Birds, F = Fish, Fu = Fungi, I = Invertebrates, L = Lichens, M = Mammals, P = Plants, R = Reptiles

CODE: for Birds, Annex IV and V species the code as provided in the reference portal should be used in addition to the scientific name

S: in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes

NP: in case that a species is no longer present in the site enter: x (optional)

Unit: i = individuals, p = pairs or other units according to the standard list of population units and codes in accordance with Article 12 and 17 reporting, (see reference portal)

Cat.: Abundance categories: C = common, R = rare, V = very rare, P = present

Motivation categories: IV, V: Annex Species (Habitats Directive), **A:** National Red List data; **B:** Endemics; **C:** International Conventions; **D:** other reasons

4. SITE DESCRIPTION

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4.1 General site character

Habitat class	% Cover
N05	5.00
N06	10.00
N08	15.00
N09	15.00
N14	15.00
N04	25.00
N01	10.00
N03	5.00
Total Habitat Cover	100

Other Site Characteristics

Horn Head to Fanad Head SPA comprises a number of separate sections of the north County Donegal coastline stretching some 70 km eastwards from Dooros Point, south-west of Horn Head to just south of Saldanha Head, south of Fanad Head. The site includes the high coast areas and sea cliffs, the land adjacent to the cliff edge and the sand dunes and lake at Dunfanaghy/Rinclevan. The high water mark forms the seaward boundary, except at Horn Head where the adjacent sea area to a distance of 500 m from the cliff base is included. Sea cliffs are present along virtually all the site. Almost all are greater than 10 m in height. They are often over 30 m and rise impressively to over 200 m in a few places. The geology consists of both metamorphic and igneous intrusive rocks. The metamorphic rocks are quartzites and schists. A small low-lying peninsula of metamorphic limestones occurs at Cloonmass Point and Isle just north of the Ards peninsula. Large areas of habitat included in the site are semi-natural, often on unenclosed land, but there is some improved and semi-improved agricultural land also. Apart from the ubiquitous and well-developed vegetated sea cliff and cliff top habitat, the semi-natural habitat present include fixed dunes, Marram (Ammophila arenaria) dunes, dune heath, dune slacks, machair, dry heath,

wet grassland, improved and semi-improved grassland, and lakes.

4.2 Quality and importance

The site holds a nationally important population of breeding Pyrrhocorax pyrrhocorax, the sea cliffs provide breeding and roosting sites for the birds whilst the land adjacent to the cliff top provides feeding habitat. The site also supports a large population of Falco peregrinus. In addition, the site is used by an assemblage of over 20,000 breeding seabirds, the cliffs around Horn Head being of particular importance. The site supports nationally important numbers of Fulmarus glacialis (5.1% of all-Ireland total), Phalacrocorax carbo (1.5%), Phalacrocorax aristotelis (3%), Rissa tridactyla (7.9%), Uria aalge (2.7%) and Alca torda (13%). In winter the site supports flocks of Branta leucopsis and Anser albifrons flavirostris that are of national importance.

4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts			
Rank	**Threats and pressures [code]**	**Pollution (optional) [code]**	**inside/outside [i|o|b]**
L	G01.02		i
L	G01.03		i
M	A08		i
L	A10		i
L	D01.01		i
L	I01		i
M	K01.01		i
M	C01.01.02		o
M	A02		i
M	G02.08		i

Positive Impacts			
Rank	**Activities, management [code]**	**Pollution (optional) [code]**	**inside/outside [i|o|b]**
L	D01.01		i
L	G01.02		i

Rank: H = high, M = medium, L = low
Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,
T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions
i = inside, o = outside, b = both

4.4 Ownership (optional)

No information provided

4.5 Documentation (optional)

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Wildlife Service, Dublin. Gray, N., Thomas, G., Trewby, M. and Newton, S.F. (2003). The status and distribution of Chough Pyrrhocorax pyrrhocorax in the Republic of Ireland 2002/03. Irish Birds 7: 147-156. Hunt, J., Derwin, J., Coveney, J. and Newton, S. (2000). Republic of Ireland. Pp. 365-416 in Heath, M.F. and Evans, M.I. (eds). Important Bird Areas in Europe: Priority Sites for Conservation 1: Northern Europe. Cambridge, UK: BirdLife International (BirdLife Conservation Series No. 8). Irish Wetland Birds Survey (I-WeBS) Database, 1994/95-2000/01. BirdWatch Ireland, Dublin. Launder, C. and Donaghy, A. (2008). Breeding waders in Ireland 2008: A review and recommendations for future action. Unpublished report to NPWS. Madden, B. (in prep.). Breeding Survey of Peregrine Falcons in the Republic of Ireland, 2002. Unpublished report to NPWS, Dublin. Madden, B., Cooney, T. and O'Donoghue, A. (1997). Survey of breeding waders of machair sites in Ireland. Unpublished report to NPWS. Merne, O.J. and Walsh, A. (1994). Barnacle Geese in Ireland, spring 1993 and 1994. Irish Birds 5: 151-156. Merne, O.J. and Walsh, A. (2002). Barnacle Geese in Ireland, spring 1999. Irish Birds 7: 53-56. Mitchell, C., Walsh, A., Hall, C. and Crowe, O. (2008). Greenland Barnacle Geese Branta leucopsis in Britain and Ireland: results of the International Census, Spring 2008. WWT, NPWS and Birdwatch Ireland Report. Mitchell, P.I., Newton, S., Ratcliffe, N. and Dunn, T.E. (2004). Seabird Populations of Britain and Ireland. Poyser, London. Norriss, D.W. (1995). The 1991 survey and weather impacts on the Peregrine Falco peregrinus breeding population in the Republic of Ireland. Bird Study 42: 20-30. Robinson, J.A, Colhoun, K., McElwaine, J.G. and Rees, E.C. (2004). Whooper Swan Cygnus cygnus (Iceland population) in Britain and Ireland 1960/61 - 1999/2000. Waterbird Review Series, The Wildfowl & Wetlands Trust/Joint Nature Conservation Committee, Slimbridge. Ruttledge, R.F. and Ogilvie, M.A. (1979). The past and current status of the Greenland White-fronted Goose in Ireland and Britain. Irish Birds 1: 293-363. Sheppard, R. (1993). Ireland's Wetland Wealth. IWC, Dublin. Suddaby, D., Nelson, T. and Veldman, J. (2009). Resurvey of breeding wader populations of machair and associated wet grassland in north-west Ireland. Irish Wildlife Manuals, No. XX. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin. Trewby, M., Gray, N., Cummins, S., Thomas, G. and Newton, S. (2006). The Status and Ecology of the Chough Pyrrhocorax pyrrhocorax in the Republic of Ireland, 2002-2005. BirdWatch Ireland Report, Kilcoole. Trewby, M., Gray, N., Cummins, S., Thomas, G. and Newton, S. (in prep.). The breeding season and foraging behaviour of Choughs Pyrrhocorax pyrrhocorax in three Irish Chough Important Bird Areas. Worden, J., Mitchell, C.R., Merne, O.J. and Cranswick, P.A. (2004). Greenland Barnacle Goose Branta leucopsis in Britain and Ireland: Results of the International census, March 2003. The Wildfowl & Wetlands Trust, Slimbridge.

5. SITE PROTECTION STATUS

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5.1 Designation types at national and regional level (optional):

Code	Cover [%]
IE04	8.00
IE05	6.00

5.2 Relation of the described site with other sites (optional):

No information provided

5.3 Site designation (optional)

No information provided

6. SITE MANAGEMENT

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6.1 Body(ies) responsible for the site management:

No information provided

6.2 Management Plan(s):

An actual management plan does exist:

☐	Yes	
☐	No, but in preparation	

X	No

6.3 Conservation measures (optional)

No information provided

7. MAP OF THE SITE

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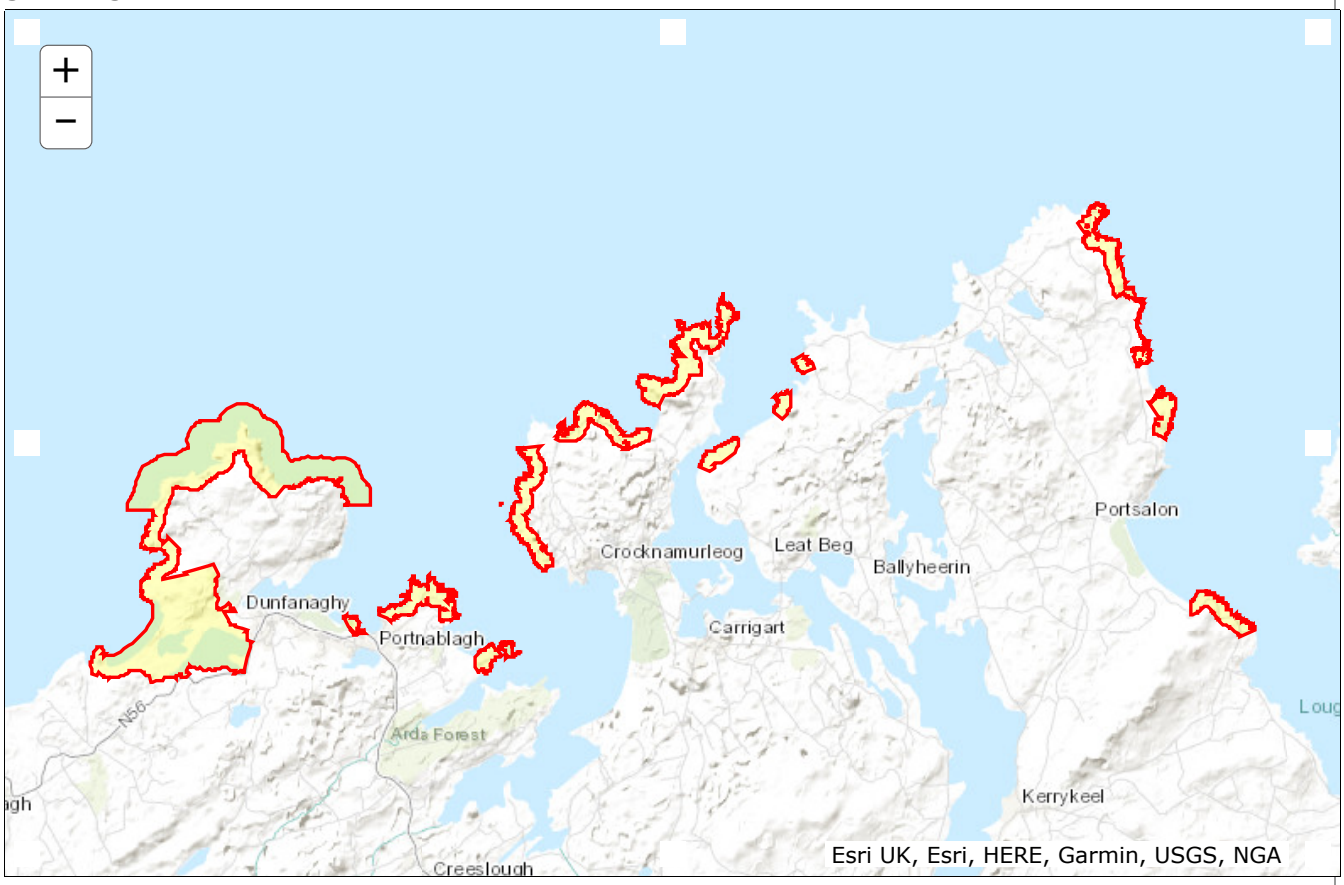
Map delivered as PDF in electronic format (optional)			
☐	Yes	X	No

SITE DISPLAY



Conservation objectives for Horn Head to Fanad Head SPA [004194]

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Objective: To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:

Bird Code	Common Name	Scientific Name
A009	Fulmar	*Fulmarus glacialis*
A017	Cormorant	*Phalacrocorax carbo*
A018	Shag	*Phalacrocorax aristotelis*
A045	Barnacle Goose	*Branta leucopsis*
A103	Peregrine	*Falco peregrinus*
A188	Kittiwake	*Rissa tridactyla*
A199	Guillemot	*Uria aalge*

A200	Razorbill	*Alca torda*
A346	Chough	*Pyrrhocorax pyrrhocorax*
A395	Greenland White-fronted Goose	*Anser albifrons flavirostris*

Citation: *NPWS (2022) Conservation objectives for Horn Head to Fanad Head SPA [004194]. First Order Site-specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.*

This First Order Site-specific Conservation Objectives Version 1.0 document replaces the Generic Conservation Objectives Version 9.0 document.