

**Natura Impact Statement for the Proposed Restoration and
Management of the Howth ÉIRE 6 Sign**



FINAL REPORT

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SECTION 1. INTRODUCTION

1.1. Introduction

Faith Wilson Ecological Consultant and Dr Tom Curtis have prepared this Natura Impact Statement for the proposed restoration and management of the Howth ÉIRE 6 Sign on behalf of the Howth ÉIRE 6 Restoration Group.

This Natura Impact Statement relies on information gathered as part of a study conducted for Fingal County Council in 2019, when the report authors were commissioned by Fingal County Council to undertake a flora study and prepare an advisory note on the impact of a proposed plan for the removal of vegetation to expose a recently discovered WW2 ÉIRE Sign within the Howth Head SAC¹.

This report contains the information required for the consenting authority, National Parks and Wildlife Service, to consider the Appropriate Assessment for this development and for the Minister of Housing, Local Government and Heritage to provide Ministerial Consent for these works.

1.2. Legislative Background

The aim of the European Habitats Directive (Council Directive 92/43/EEC on the conservation of wild habitats and of wild fauna and flora) is to create a network of protected wildlife sites across Europe, which are to be maintained at a favourable conservation status.

Each member state must designate their most important natural areas as Special Areas of Conservation (SAC). The Directive specifies the scientific criteria on the basis of which SAC sites must be selected and very strictly curtails the grounds that can be used as justification for damaging a site. The network of sites is referred to as NATURA 2000 and includes SACs (Special Areas of Conservation) for protected habitats and species and SPAs (Special Protection Areas) for birds, which are designated under the European Birds Directive (Council Directive 79/409/EEC as amended by Directive 2009/147/EC).

It is a requirement of the Habitats Directive ((92/43/EEC) that the competent consenting authority, (which can be either the planning authority or on

¹ Curtis & Wilson (2019). Flora Study Howth ÉIRE 6 sign. Unpublished report prepared for Fingal County Council dated 3rd September 2019.

planning appeal An Bord Pleanála if planning permission is required (or in this case National Parks and Wildlife Service)), must ensure that a proposal, which is likely to have a significant effect on an SAC or SPA, is authorised only to the extent that the authority is satisfied it will not adversely affect the integrity of the Natura 2000 site and that an appropriate assessment of the implications of the development for the conservation status of the site is undertaken.

The European Parliament, in a communication to the European Council in September 2000, states:

"The implementation of the European Habitats Directive and Birds Directive, both with respect to species conservation and with respect to the establishment of the Natura 2000 network, is one of the most important tools for achieving the objectives of the Convention on Biological Diversity in the European Union and member states (European Parliament 2000)".

Article 6 of the Habitats Directive provides a strict assessment procedure for any plan or project not directly connected with or necessary to the management of a designated European site but which has the potential to have implications for the site in view of the site's conservation objectives.

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect Natura 2000 sites (Annex 1.1).

Article 6(3) establishes the requirement for Appropriate Assessment (AA):

"Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In 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."

Article 6(4) states:

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

The European Communities (Birds and Natural Habitats) Regulations 2011 were implemented to transpose the Habitats Directive and the Birds Directive into Irish law as well as addressing transposition failures identified in the Court of Justice of the European Union (CJEU) judgements.

This report has taken into consideration the relevant requirements of the Planning and Development Act, 2000 (as amended by the Planning and Development Act 2010).

References to Natura 2000 sites throughout this report are to be taken as referring to European sites as defined in the above Planning Act.

1.3. Methodology

This report is based on a desk study combined with the previous field surveys conducted in 2019.

The information presented in this report is as follows:

- Background information on the study conducted in 2019 for Fingal County Council and the outcomes of same.
- Description of the potential methods for the restoration and management of the Howth ÉIRE 6 Sign following the 2019 study.
- Identification of relevant Natura 2000 sites within 15km of the proposed development.
- Description of the existing ecological environment at the site.
- Assessment of likely significant adverse effects on the integrity of Natura 2000 sites.
- Statement for Screening for Appropriate Assessment.
- Description of the proposed methods for the restoration and management of the Howth ÉIRE 6 Sign set out by the Howth ÉIRE 6 Restoration Group.
- Preparation of Natura Impact Statement.
- Description of Mitigation Measures.
- Description of Cumulative/In-combination Effects.
- Conclusion

1.4. Guidance and Data Sources

This report has been prepared with regard to the following guidance documents where relevant:

- *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* (European Commission Environment Directorate General, 2001)
- *Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC* (EC Environment Directorate General, 2000)
- *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities Circular NPW 1/10 & PSSP 2/10*
- *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities*. (Department of Environment, Heritage and Local Government, 2010 revision)
- *Guidelines for Good Practice, Appropriate Assessment of Plans under Article 6(3) Habitats Directive* (International Workshop on Assessment of Plans under the Habitats Directive, 2011)
- *Guidance Document on Article 6(4) of the Habitats Directive 92/43/EEC. Clarification of the Concepts of Alternative Solutions, Imperative Reasons of Over-riding Public Interest, Compensatory Measures, Overall Coherence*. Opinion of the European Commission (European Commission, January 2007)

The competent authority (in this case National Parks and Wildlife Service) are required to carry out appropriate assessment, as required by Article 6(3) and 6(4) of the Habitats Directive, as follows:

- **Stage 1: Screening for Appropriate Assessment**

The first step to establishing if an appropriate assessment is required is referred to as 'screening' and its purpose is to determine, in view of best scientific knowledge, on the basis of a preliminary assessment and objective criteria if the plan or project, alone or in combination with other plans or projects, could have a significant effect on a Natura 2000 site in view of the sites conservation objectives. The process identifies any likely impacts upon a Natura 2000 Site, either alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant.

- **Stage 2: Appropriate Assessment**

This is required if it cannot be excluded, on the basis of objective information, that the development, individually or in combination with other plans or projects, will have a significant effect on a Natura 2000 site.

The appropriate assessment must include a final determination by the competent authority as to whether or not a proposed development would adversely affect the integrity of a Natura 2000 site. In order to reach a final determination, the consenting authority must undertake examination, analysis and evaluation, followed by findings, conclusions and a final determination. The appropriate assessment must contain complete, precise and definitive findings and conclusions, and may not have lacunae or gaps.

Additionally, where there are deemed to be adverse impacts, an assessment of the potential mitigation of those impacts is considered.

- **Stage 3: Assessment of Alternative Solutions**

This stage examines alternative means of achieving the objectives of the project or plan that aim to avoid adverse impacts on the integrity of the Natura 2000 site.

- **Stage 4: Assessment where no alternative solutions exist and where adverse impacts remain**

This stage is the main derogation process outlined in Article 6(4) which examines whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project, which will have adverse effects on the integrity of a Natura 2000 site, to proceed.

This Natura Impact Statement (NIS) report (consisting of Stage 1 Screening for Appropriate Assessment and the Stage 2 Appropriate Assessment) provides the information necessary for the consenting authority (National Parks and Wildlife Service) to give statutory consent for the proposed works.

This report deems that it is not necessary to undertake any further stage of the Appropriate Assessment process (refer to **Section 5** Conclusions).

SECTION 2. SCREENING FOR APPROPRIATE ASSESSMENT

2.1 DESCRIPTION OF THE PLAN OR PROJECT

This section of the report includes the background information provided by Fingal County Council to the study team in 2019, and the results of field surveys, discussions and agreements which took place as part of the process regarding the restoration and management of the ÉIRE 6 Sign following the appointment of the project team.

2.1.1 Description of the Project Brief Provided by Fingal County Council in 2019

As set out in the brief provided by Fingal County Council:

‘Local historic groups have been aware of the presence of a WW2 ÉIRE sign (ÉIRE 6) near Howth Summit, Howth. Co. Dublin for some time and have researched into its exact position. The approximate location of the sign is outlined on **Figures 1, 2 and 3** below and is adjacent to the Upper Cliff Path, near the Summit Car Park end. The lettering within the sign covers an area of approximately 298m². The area of the sign within the rectangular boundary as set out in **Figure 3** below covers an area of 980m².

The sign is made up of locally collected small stones of mixed sizes piled together in approximately 1 metre wide strips to form the letters ÉIRE and this is surrounded by a rectangle of stones, 45.5m x 21.7m, about 0.2 – 0.3m wide.

The sign occupies an area of approximately 980m² just inside the boundary of the Howth Head SAC. From what has been uncovered to date these stone shapes are no more than c.300mm deep and it is not known if there is a foundation under the stone shapes. The surviving stone piles are roughly level with the ground. The stones would have been whitewashed or painted to make them clearer to overhead aircraft.

During 2017 - 2018, Fingal County Council held informal discussions with local community groups in the Howth area in response to their ideas in relation to the restoration of The ÉIRE 6 WW2 Navigation Sign. Following a similar sign in Bray being uncovered after a recent gorse fire, Fingal County Council had had several requests from local community & historical groups to restore the Howth ÉIRE sign.

The National Parks and Wildlife Service advised Fingal County Council that an Appropriate Assessment would need to be conducted to ascertain if restoration works of the ÉIRE sign could be carried out without affecting the integrity of the Howth Head SAC’.

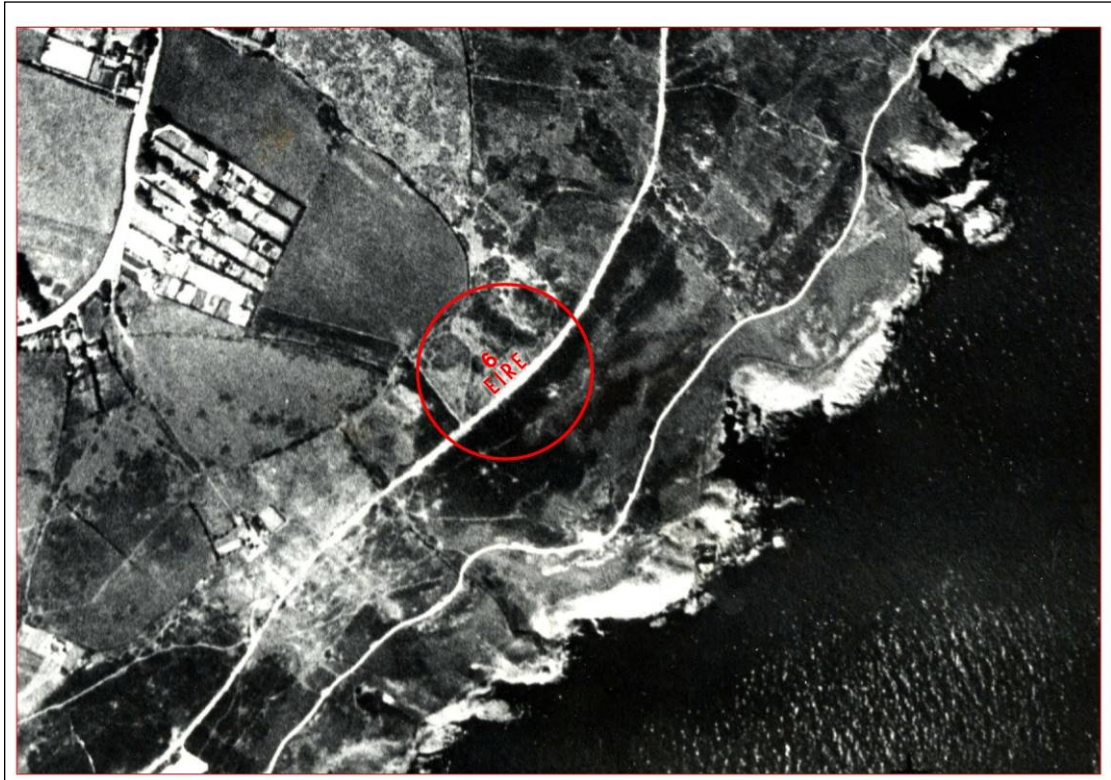


Figure 1. Black and White Aerial View of the ÉIRE 6 sign.



Figure 2. Location of the ÉIRE 6 sign (Google Maps imagery).

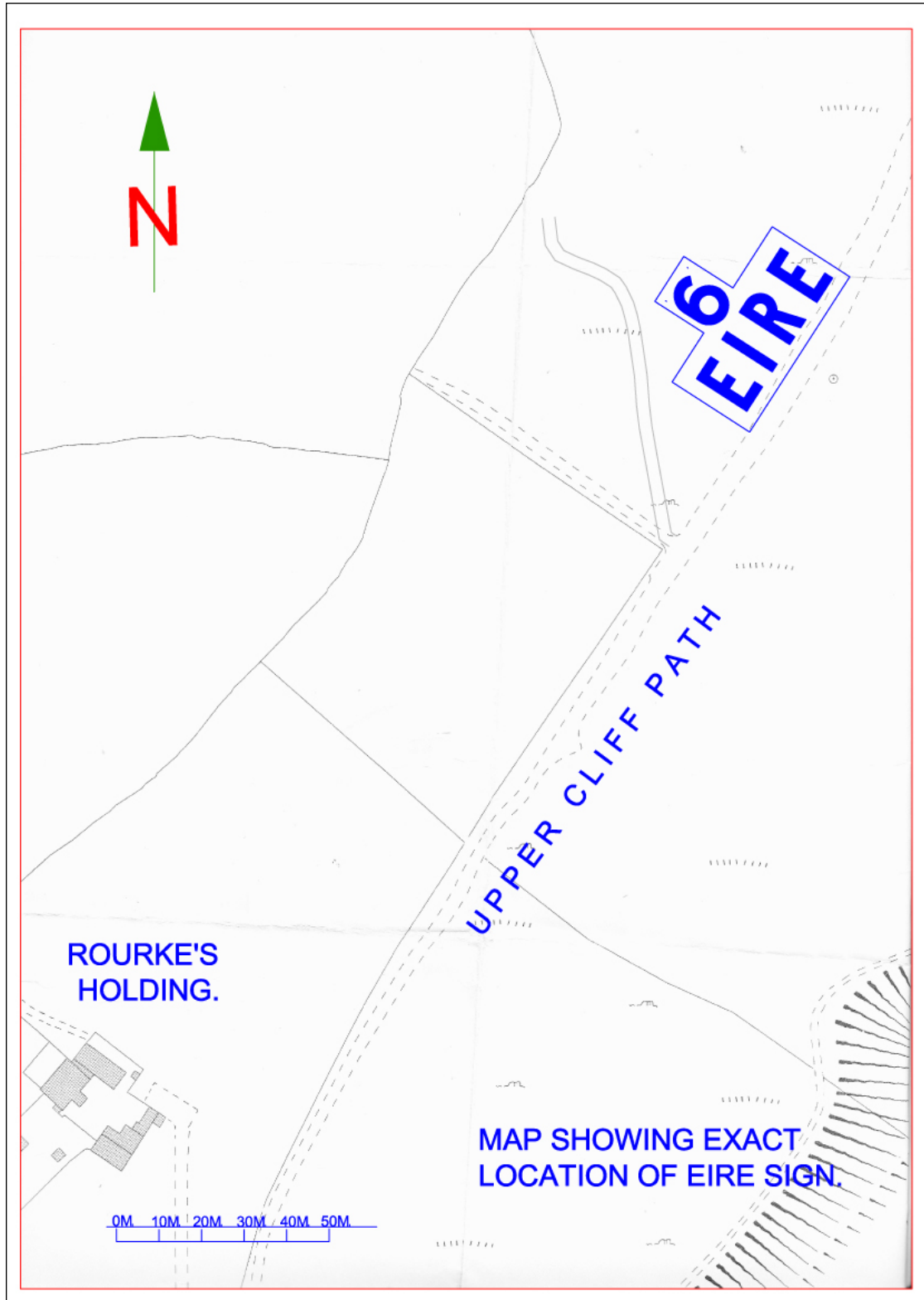


Figure 3. Location of the WW2 ÉIRE sign.

In March 2019, Fingal County Council appointed Faith Wilson and Dr Curtis (both experienced ecologists) to undertake a flora study and prepare an advisory note on the impact of a proposed plan for the removal of vegetation to expose a recently discovered WW2 ÉIRE Sign within the Howth Head SAC.

The primary aims of the project were:

- (1) to establish what vegetation and habitat types are present within the proposed work area by means of a flora study, and
- (2) to prepare an advisory note to determine if the loss of this habitat within the Howth Head SAC could be considered significant and affect the integrity of the Howth Head SAC. No other elements of works within the Howth Head by Fingal County Council or in-combination effects were to be considered at this stage. The development phase and the ongoing maintenance requirements in the future to keep the sign visible were to be considered.

This floral study was completed by Dr Curtis and Faith Wilson and is further discussed below.

2.1.2 Desk Study and Consultation

A desk study was carried out to collate the available information on the ecological environment potentially impacted by the proposed restoration and management of the Howth ÉIRE 6 sign at Howth and to determine the proximity of the sign to designated areas for conservation.

The National Parks and Wildlife Service (NPWS) of the Department of Housing, Local Government and Heritage database of designated conservation areas was checked and information on protected species of fauna and flora listed for protection under Annex II of the EU Habitats Directive (92/43/EEC), Annex I of the Birds Directive (79/409/EEC) and the Wildlife (Amendment) Act (2000) was also sought from NPWS, the National Biodiversity Data Centre and published sources.

This assessment relied on the information gathered during the field surveys conducted as part of the floral study and subsequent advisory note completed by Curtis & Wilson in 2019 for Fingal County Council. These are presented below for completeness.

Current Covid19 constraints have prevented a resurvey of the site to date.

2.1.3 Field Surveys

The site of the Howth ÉIRE 6 sign and the adjacent areas of the SAC/pNHA were first visited on Wednesday 3rd April 2019 by Dr Tom Curtis BSc PhD and Faith Wilson BSc CEnv MCIEEM (independent ecological consultants) when an examination of the site was carried out in a general and specific manner.

The site was resurveyed on the 15th May 2019. A thorough inspection of the habitats both on the immediate site and lands adjacent was made and the salient and important features recorded. Particular attention was paid to finding the location and extent of the ÉIRE 6 sign.

The site visits were conducted to identify, describe and evaluate the habitats present and to verify the information gathered at the desk study stage. The habitats were classified to Level 3 using A Guide to Habitats in Ireland (Fossitt, 2000) and their correspondence to the Annex I habitat **4030 European Dry Heath** as listed under Annex of the EU Habitats Directive. Species nomenclature for plants follows Parnell and Curtis (2012).

Assistance in determining the extent of the sign on the ground was provided by John Brophy of Fingal County Council on the 15th May 2019.

2.1.4 Nature Conservation Designations

The 2019 survey confirmed that the location of the ÉIRE 6 sign is included within the boundary of Howth Head Special Area of Conservation (SAC) – Site Code: 000202 as shown on **Figure 4** below.

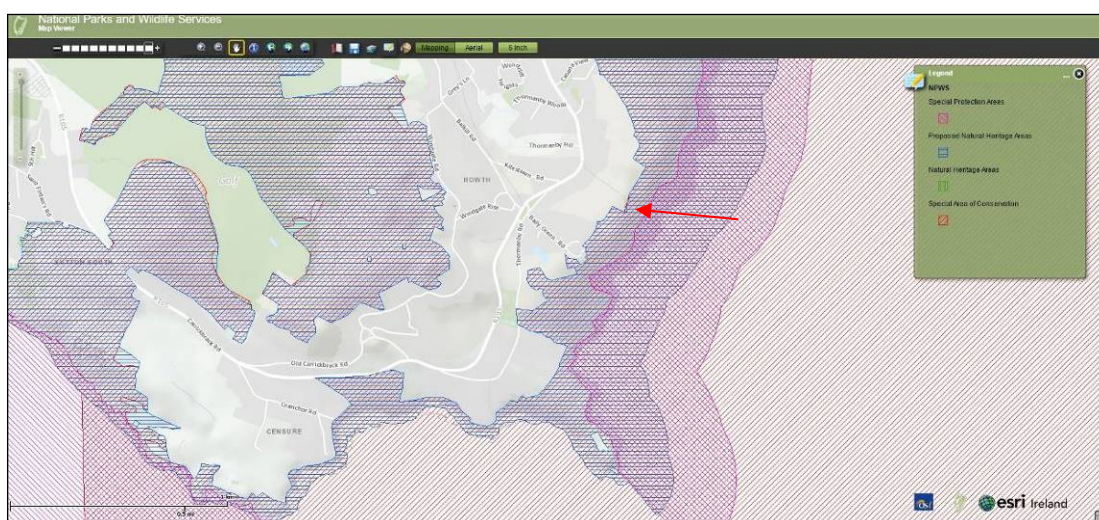


Figure 4. Site Designations on Howth Head. The indicative location of the ÉIRE 6 sign is indicated by the red arrow.

These lands are also designated as a proposed Natural Heritage Area (pNHA) – Site Code: 000202, while the boundary of the Howth Head Coast Special Protection Area for Birds (SPA) - Site Code: 004113 is located in close proximity to the east along the cliffs.

The qualifying interests for the Natura 2000 sites Howth Head SAC and Howth Head Coast SPA are:

- (1230) Vegetated sea cliffs of the Atlantic and Baltic coasts
- (4030) European dry heaths
- Kittiwake (*Rissa tridactyla*) [A188]

2.1.5 Description of the Receiving Environment – Habitats

The following description and photographs have been taken from the 2019 flora study report:

“Initially it proved difficult to locate the exact position of the ÉIRE sign and only its proximity to the seat which had been recently sited near to it, allowed it to be found. Even then only the lower part of the letter ‘R’ was exposed and visible.

The eastern side of the sign lies adjacent to the cliff path whilst to the west and south it is bordered by a track leading into the heath land which covers most of the ground at this point. The northern edge is covered by Gorse and heather and was undefined.

The habitat consists of mature ‘coastal’ heath dominated by Western gorse, *Ulex gallii*, Ling, *Calluna vulgaris*, and Bell heather, *Erica cinerea* with some Burnet rose, *Rosa pimpinellifolia*.



Plate 1. The letter ‘R’ of the ÉIRE sign.

The habitat accords with the **Dry Siliceous Heath HH1** category of Fossitt (2000) and also with the Annex I habitat **European Dry Heath (4030)** for which the SAC is designated. There is an understorey of Blackberry, *Rubus fruticosus* and Wood sage, *Teucrium scorodonia* and though Gorse, *Ulex europaeus* is present, it is restricted in size and extent due to the harsh exposure to which the site is subjected.

In the north-east corner, and within close proximity to the boundary of the areas to be cleared is an extensive area of lichen-dominated heath within which the lichen species are large and extensive and are probably 80 years old or more. They consist mostly of *Cladonia* spp. (*Cladonia portentosa* and *Cladonia rangiferina*).



Plate 2. The newly installed tram bench near the ÉIRE sign.



Plate 3. Looking south over Howth Head from west of the ÉIRE sign.

As is often the case, **Dry-humid acid grassland GS3** is found in a mosaic with the heath and especially at its edges or where trampling has restricted the growth of the heath. Typically, Common bent, *Agrostis capillaris*, Sheep's fescue, *Festuca ovina* and Heath bedstraw, *Galium saxatile* are dominant with Dandelion, *Taraxacum officinale*, Common Bird's-foot-trefoil, *Lotus corniculatus* and Common dog-violet, *Viola riviniana*. There are abundant seedlings of the Gorse species scattered throughout any open areas of the heath.

The edge of the heath abutting the cliff path is grassy with Sheep's fescue, Cat's ear, *Hypochoeris radicata*, English stonecrop, *Sedum anglicum*, Heath groundsel, *Senecio sylvaticus*, Annual meadow-grass, *Poa annua* and Pearlwort, *Sagina procumbens* the common species. The sward along the track to the west side consists mostly of Clovers, especially Yellow clover, *Trifolium dubium* with Bulbous buttercup,

Ranunculus bulbosus, Sticky mouse-ear, *Cerastium glomeratum*, Daisy, *Bellis perennis* and Common speedwell, *Veronica persica*. There is also a covering of acrocarpous mosses.



Plate 4. Dry Siliceous Heath HH1/European Dry Heath (4030).

The area below the path had been recently burnt and if the same was to occur in the area of the ÉIRE sign the following species may be expected to occur: - a dominant sward of acrocarpous mosses, with Cat's ear, Common bent, Sheep's fescue, English stonecrop scattered Western heath, Bell heather, *Erica cinerea*, the moss *Polytrichum commune* and the moss typical of burnt sites, *Campylopus introflexus*.



Plate 5. The two main species of lichen *Cladonia portentosa* above and *Cladonia rangiferina* below dominating the lichen heath adjacent to the ÉIRE 6 sign.



Plate 6. Overview of the intact area of lichen heath in close proximity to the ÉIRE 6 sign on Howth Head.



Plate 7. Upper cliff path adjoining the ÉIRE 6 sign.

A second site visit was conducted on the 15th May 2019.



Plate 8. Recently burnt area below the Upper Cliff Path.

As before the main species were noted and any additional ones are presented below. The exact location and extent of the area proposed for exposure had been marked by the surveying team of Fingal County Council and so allowed a precise appraisal of the vegetation to be undertaken.

It was clear that persons (confirmed as not associated with the Howth ÉIRE 6 Restoration Group) attempting to expose the ÉIRE 6 sign had already begun further excavation in advance of this assessment being completed and consequently the assessment of the 15th May was coloured by the fact that disturbance had taken place in parts of the site.



Plate 9. Additional vegetation clearance of the ÉIRE 6 sign had taken place in the interim period between the two visits. (Note that these works were not conducted by the Howth ÉIRE 6 Restoration Group)

Within this recently cleared area, a seed bank of weedy species has been exposed and as a result Wild turnip, *Brassica rapa* and Scarlet pimpernel, *Anagallis arvensis* have germinated and produced flowering plants. The perennial Bank violet, *Viola riviniana* was also present.



Plate 10. Worn pathway which supports Dry-humid acid grassland GS3 through Dry Siliceous Heath HHI along the southern boundary of the area.

Dry-humid acid grassland GS3 is found in a mosaic with the heath and especially at its edges or where trampling has restricted the growth of the heath, the additional species noted were Rat's-tail fescue, *Vulpia myuros* and Early hair-grass, *Aira praecox*.

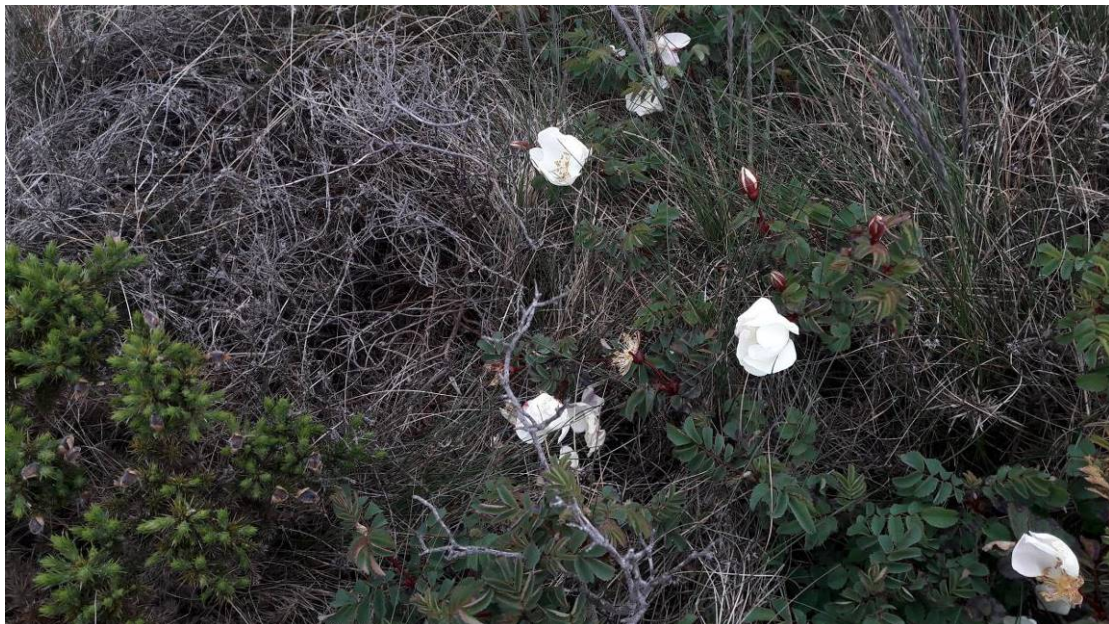


Plate 11. Burnet rose, *Rosa pimpinellifolia* to the north west of the ÉIRE 6 sign.

Along the track defining the southern boundary of the sign Common milkwort, *Polygala vulgaris* occurs whilst a small clump of Cut-leaved Cranesbill, *Geranium dissectum* was also found. In general, the area to be exposed is not notable for any

rare or scarce species of flora whilst the habitat and vegetation is described as **Dry Siliceous Heath HHI** in a mosaic with **Dry-humid acid grassland GS3**, which corresponds to the Annex I habitat **European Dry Heath (4030)** for which the SAC is designated.

The burnt area below the track had more vegetation cover than in the previous visit notably of Sheep's sorrel, *Rumex acetosella*, Sheep's fescue, Sweet vernal-grass, Common bent and the moss *Polytrichum commune*.

2.1.6 Description of the Proposed Restoration and Management of the ÉIRE 6 Sign

The following section of the report set outs the project brief, history of surveys, discussions and agreements which took place as part of the process regarding the restoration and management of the ÉIRE 6 Sign following the appointment of the project team in 2019 by Fingal County Council.

Fingal County Council Brief 2019

The brief set out by Fingal County Council in 2019 had identified the proposed area for the restoration and management of the ÉIRE 6 Sign to be that of the vegetation within the containing box as shown on **Figure 5** below, which amounts to c.980m².

The drawing provided by Fingal County Council in 2019 also indicated that a triangular path surrounding the ÉIRE 6 Sign would be maintained for viewing purposes².

The northernmost of these tracks is not currently extant and was completely overgrown and subsequently marked out by the surveying team of Fingal County Council on 15th May 2019.

The Fingal County Council brief set out that two stages involved in exposing the ÉIRE 6 Sign were to be considered. These were:

- Stripping back overgrown vegetation to initially uncover the ÉIRE 6 Sign.
- On-going maintenance to keep the ÉIRE 6 Sign clear of vegetation.

The Fingal County Council brief set out that three methods exist for both the initial clearing of this type of vegetation cover and the on-going maintenance required to keep the ÉIRE 6 Sign exposed, these included:

- Controlled or Prescribed Burning
- Mechanical treatment
- A livestock grazing program

² The Howth ÉIRE 6 Restoration Group have subsequently clarified that the triangular path frame around the ÉIRE 6 Sign is not incidental but was created as a fire-safety zone around the sign when it was installed in 1943. It was thus an integral aspect of the Howth ÉIRE sign, and in fact an aspect unique to the Howth sign not found in any others. Although the historical role of the "triangle" is recognised its restoration is not being recommended.

It was proposed by Fingal County Council that a combination of all three methods to expose and maintain the ÉIRE 6 Sign may have the greatest beneficial impact as part of the integrated land management scheme for this area.

These methods were subsequently examined as part of the 2019 study (see also **Appendix 1**).

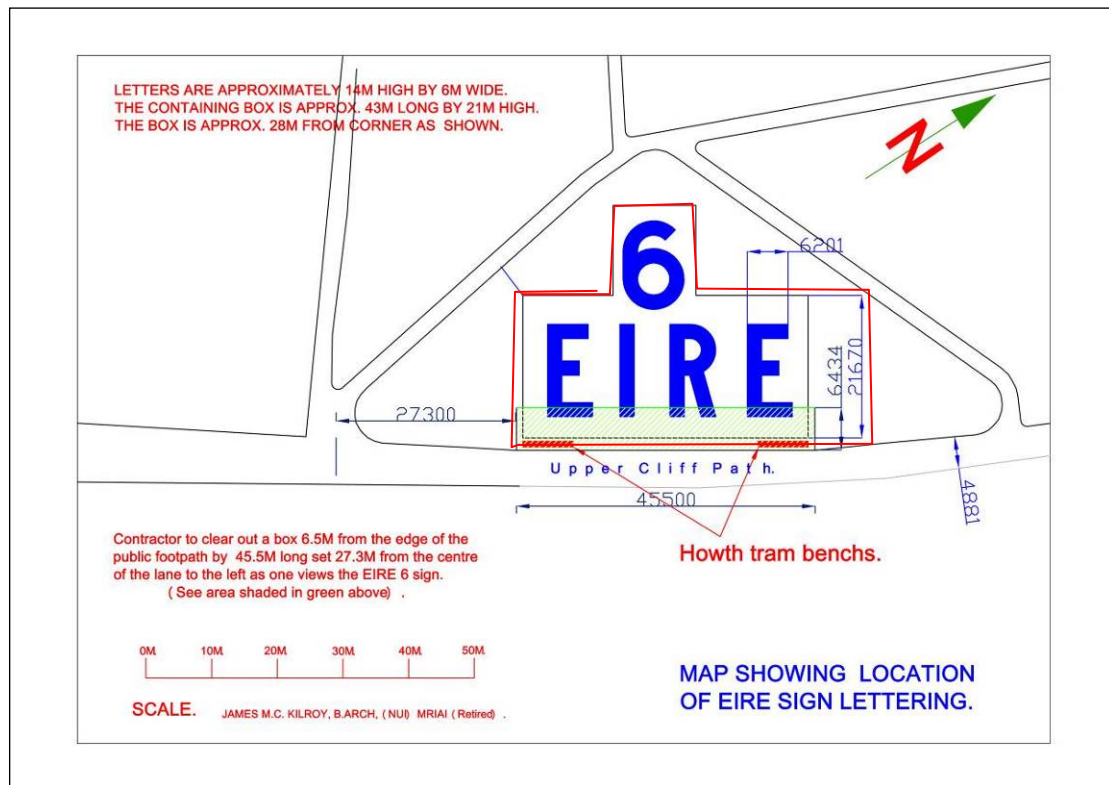


Figure 5. Extent of the area (980m²) initially proposed to be cleared within the containing box (shown in red) as per the Fingal County Council brief in 2019.

The floral study report concluded, that if the mitigation and methods outlined in it were followed for exposing the sign and for maintaining it, then no significant loss of habitat would result and the integrity of the site would not be compromised.

However, as the project was to happen within a Special Area for Conservation and have potential impacts upon a designated habitat, a Report for Screening for Appropriate Assessment and probably a consequent Natura Impact Statement was considered by the National Parks and Wildlife Service to be obligatory.

2.2 ASSESSMENT OF RELEVANCE OF PROPOSED DEVELOPMENT TO NATURA 2000 SITES

In line with the European Commission Methodological Guidance (EC (2001)) and the DoEHLG Guidance (DoEHLG (2010)) a review of all Natura 2000 sites that could be potentially affected by the proposed restoration and management of the ÉIRE 6 Sign was made using the NPWS online map viewer.

These included any Natura 2000 sites within or adjacent to the proposed development, and any Natura 2000 sites within the likely zone of impact of the proposed development (a 15km radius) including those downstream.

In addition to the identified Natura 2000 sites, consideration was also given to relevant species listed under Annexes I and II and IV of the Birds and Habitats Directives, respectively.

Best practice recommends assessing Natura 2000 sites located within 15km of a proposed plan or project. Details of Natura 2000 sites within 15km of the ÉIRE 6 sign and their locations in relation to the ÉIRE 6 sign are provided in **Table 2.2**.

There are seventeen Natura 2000 sites within a 15km radius of the ÉIRE 6 sign as follows:

- Baldoyle Bay SAC 000199
- Baldoyle Bay SPA 004016
- Howth Head SAC 000202
- Howth Head Coast SPA 004113
- Ireland's Eye SAC 002193
- Ireland's Eye SPA 004117
- Lambay Island SAC 000204
- Lambay Island SPA 004069
- Malahide Estuary SAC 000205
- Broadmeadow/Swords Estuary SPA 004025
- North Dublin Bay SAC 000206
- North Bull Island SPA 004006
- Rockabill to Dalkey Island SAC 003000
- Rogerstown Estuary SAC 000208
- Rogerstown Estuary SPA 004015
- South Dublin Bay SAC 000210
- South Dublin Bay and River Tolka Estuary SPA 004024

Proposed Natural Heritage Areas (pNHAs)

Proposed Natural Heritage Areas (pNHAs) are also habitats or sites of interest to wildlife that have been identified by NPWS. These sites become NHAs once they have been formally advertised and land owners have been notified of their designation. NHAs are protected under the Wildlife (Amendment) Act, 2000, from the date they are formally proposed. NHA is a statutory designation according to the Wildlife Act 1976 (as amended) and requires consultation with NPWS if any development impacts on a pNHA.

NHAs are considered to be of national importance, while SACs and SPAs are of international importance for nature conservation.

The lands adjoining the ÉIRE 6 sign are included within the boundary of Howth Head pNHA (Site Code: 000202).

There are seventeen other proposed Natural Heritage Areas (pNHAs)/Natural Heritage Areas (NHAs) within 15km of the ÉIRE 6 sign some of which are also designated as Natura 2000 sites. These pNHAs include:

- Baldoyle Bay pNHA 000199
- Booterstown Marsh pNHA 001205
- Dolphins, Dublin Docks pNHA 000201
- Grand Canal pNHA 002104
- Feltrim Hill pNHA 001208
- Ireland's Eye NHA 000203
- Lambay Island pNHA 000204
- Liffey Valley pNHA 000128
- Loughshinny Coast pNHA 002000
- Malahide Estuary pNHA 000205
- North Dublin Bay pNHA 000206
- Portraine Shore pNHA 001215
- Rogerstown Estuary pNHA 000208
- Royal Canal pNHA 002103
- Santry Demesne pNHA 001208
- Sluice River March pNHA 001763
- South Dublin Bay pNHA 000210

Natura 2000 Site Conservation Objectives:

Detailed site management plans are available for many of the Natura 2000 sites identified as outlined in the reference list, and generic conservation objectives are identified for those remaining. The conservation objectives for each of the Natura 2000 sites outlined above are summarised below in **Table 2.2**.

Table 2.2. Natura 2000 sites within 15km of the location of the Howth ÉIRE 6 sign.

Site Code	Site Name and Designation	Approximate distance from the ÉIRE 6 sign	Qualifying Interest	General Conservation Objectives
000202	Howth Head SAC	Within	<ul style="list-style-type: none"> • Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] • European dry heaths [4030] 	<p>Source: NPWS (2016) Conservation Objectives: Howth Head SAC 000202. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. Accessed 16th November 2020.</p> <p>To maintain or restore the favourable conservation condition of the Annex I habitats for which the SAC has been selected:</p> <ul style="list-style-type: none"> • Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] • European dry heaths [4030]
004113	Howth Head Coast SPA	115m east	<ul style="list-style-type: none"> • Kittiwake (<i>Rissa tridactyla</i>) [A188] 	<p>Source: NPWS (2020) Conservation objectives for Howth Head Coast SPA [004113]. Generic Version 7.0. Department of Culture, Heritage and the Gaeltacht. Accessed 16th November 2020.</p> <p>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:</p> <ul style="list-style-type: none"> • [breeding] <i>Rissa tridactyla</i>
003000	Rockabill to Dalkey Islands SAC	700m east	<ul style="list-style-type: none"> • (1170) Reefs • (1351) Harbour Porpoise (<i>Phocoena phocoena</i>) 	<p>Source: NPWS (2013) Conservation Objectives: Rockabill to Dalkey Island SAC 003000. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Accessed 16th November 2020.</p> <p>To maintain the favourable conservation condition of the Annex I habitat and the Annex II species for which the SAC has been selected:</p> <ul style="list-style-type: none"> • (1170) Reefs • (1351) Harbour Porpoise (<i>Phocoena phocoena</i>)

Site Code	Site Name and Designation	Approximate distance from the ÉIRE 6 sign	Qualifying Interest	General Conservation Objectives
004117	Ireland's Eye SPA	2.3km north	<ul style="list-style-type: none"> • Cormorant (<i>Phalacrocorax carbo</i>) [A017] • Herring Gull (<i>Larus argentatus</i>) [A184] • Kittiwake (<i>Rissa tridactyla</i>) [A188] • Guillemot (<i>Uria aalge</i>) [A199] • Razorbill (<i>Alca torda</i>) [A200] 	<p>Source: NPWS (2020) Conservation objectives for Ireland's Eye SPA [004117]. Generic Version 7.0. Department of Culture, Heritage and the Gaeltacht. Accessed 16th November 2020.</p> <p>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:</p> <ul style="list-style-type: none"> • [breeding] <i>Phalacrocorax carbo</i> • [breeding] <i>Larus argentatus</i> • [breeding] <i>Rissa tridactyla</i> • [breeding] <i>Uria aalge</i> • [breeding] <i>Alca torda</i>
000199	Baldoyle Bay SAC	2.4km north west	<ul style="list-style-type: none"> • (1140) Mudflats and sandflats not covered by seawater at low tide • (1310) <i>Salicornia</i> and other annuals colonizing mud and sand • (1330) Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) • (1410) Mediterranean salt meadows (<i>Juncetalia maritimi</i>) 	<p>Source: NPWS (2012) Conservation Objectives: Baldoyle Bay SAC 000199. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Accessed 16th November 2020.</p> <p>To maintain the favourable conservation condition of the Annex I habitats for which the SAC has been selected:</p> <ul style="list-style-type: none"> • (1140) Mudflats and sandflats not covered by seawater at low tide • (1310) <i>Salicornia</i> and other annuals colonizing mud and sand • (1330) Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) • (1410) Mediterranean salt meadows (<i>Juncetalia maritimi</i>)

Site Code	Site Name and Designation	Approximate distance from the ÉIRE 6 sign	Qualifying Interest	General Conservation Objectives
000206	North Dublin Bay SAC	2.4km south west	<ul style="list-style-type: none"> • (1140) Mudflats and sandflats not covered by seawater at low tide • (1210) Annual vegetation of drift lines • (1310) <i>Salicornia</i> and other annuals colonizing mud and sand • (1320) <i>Spartina</i> swards (<i>Spartinion maritimae</i>) • (1330) Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) • (1395) Petalwort (<i>Petalophyllum ralfsii</i>) • (1410) Mediterranean salt meadows (<i>Juncetalia maritimi</i>) • (2110) Embryonic shifting dunes • (2120) Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) • (2130) Fixed coastal dunes with herbaceous vegetation (grey dunes) • (2190) Humid dune slacks 	<p>Source: NPWS (2013) Conservation Objectives: North Dublin Bay SAC 000206. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Accessed 16th November 2020.</p> <p>To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected:</p> <ul style="list-style-type: none"> • (1140) Mudflats and sandflats not covered by seawater at low tide • (1210) Annual vegetation of drift lines • (1310) <i>Salicornia</i> and other annuals colonizing mud and sand • (1320) <i>Spartina</i> swards (<i>Spartinion maritimae</i>) • (1330) Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) • (1395) Petalwort (<i>Petalophyllum ralfsii</i>) • (1410) Mediterranean salt meadows (<i>Juncetalia maritimi</i>) • (2110) Embryonic shifting dunes • (2120) Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) • (2130) Fixed coastal dunes with herbaceous vegetation (grey dunes) • (2190) Humid dune slacks

Site Code	Site Name and Designation	Approximate distance from the ÉIRE 6 sign	Qualifying Interest	General Conservation Objectives
004006	North Bull Island SPA	2.4km south west	<ul style="list-style-type: none"> • Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) • Shelduck (<i>Tadorna tadorna</i>) • Teal (<i>Anas crecca</i>) • Pintail (<i>Anas acuta</i>) • Shoveler (<i>Anas clypeata</i>) • Oystercatcher (<i>Haematopus ostralegus</i>) • Golden Plover (<i>Pluvialis apricaria</i>) • Grey Plover (<i>Pluvialis squatarola</i>) • Knot (<i>Calidris canutus</i>) • Sanderling (<i>Calidris alba</i>) • Dunlin (<i>Calidris alpina</i>) • Black-tailed Godwit (<i>Limosa limosa</i>) • Bar-tailed Godwit (<i>Limosa lapponica</i>) • Curlew (<i>Numenius arquata</i>) • Redshank (<i>Tringa totanus</i>) • Turnstone (<i>Arenaria interpres</i>) • Black-headed Gull (<i>Larus ridibundus</i>) • Wetlands & Waterbirds 	<p>Source: NPWS (2015) Conservation Objectives: North Bull Island SPA 004006. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Accessed 16th November 2020.</p> <p>To maintain the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:</p> <ul style="list-style-type: none"> • <i>Branta bernicla hrota</i> [wintering] • <i>Tadorna tadorna</i> [wintering] • <i>Anas crecca</i> [wintering] • <i>Anas acuta</i> [wintering] • <i>Anas clypeata</i> [wintering] • <i>Haematopus ostralegus</i> [wintering] • <i>Pluvialis apricaria</i> [wintering] • <i>Pluvialis squatarola</i> [wintering] • <i>Calidris canutus</i> [wintering] • <i>Calidris alba</i> [wintering] • <i>Calidris alpina</i> [wintering] • <i>Limosa limosa</i> [wintering] • <i>Limosa lapponica</i> [wintering] • <i>Numenius arquata</i> [wintering] • <i>Tringa totanus</i> [wintering] • <i>Arenaria interpres</i> [wintering] • <i>Chroicocephalus ridibundus</i> [wintering] • Wetlands

Site Code	Site Name and Designation	Approximate distance from the ÉIRE 6 sign	Qualifying Interest	General Conservation Objectives
002193	Ireland's Eye SAC	2.9km north	<ul style="list-style-type: none"> • Perennial vegetation of stony banks [1220] • Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] 	<p>Source: NPWS (2017) Conservation Objectives: Ireland's Eye SAC 002193. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. Accessed 16th November 2020.</p> <p>To maintain the favourable conservation condition of the Annex I habitats for which the SAC has been selected:</p> <ul style="list-style-type: none"> • Perennial vegetation of stony banks [1220] • Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]
004016	Baldoyle Bay SPA	4.6km north west	<ul style="list-style-type: none"> • Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] • Shelduck (<i>Tadorna tadorna</i>) [A048] • Ringed Plover (<i>Charadrius hiaticula</i>) [A137] • Golden Plover (<i>Pluvialis apricaria</i>) [A140] • Grey Plover (<i>Pluvialis squatarola</i>) [A141] • Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] • Wetlands & Waterbirds [A999] 	<p>Source: NPWS (2013) Conservation Objectives: Baldoyle Bay SPA 004016. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Accessed 16th November 2020.</p> <p>To maintain the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:</p> <ul style="list-style-type: none"> • [wintering] <i>Branta bernicla hrota</i> • [wintering] <i>Tadorna tadorna</i> • [wintering] <i>Charadrius hiaticula</i> • [wintering] <i>Pluvialis squatarola</i> • [wintering] <i>Limosa lapponica</i> <p>To maintain the favourable conservation condition of the wetland habitat in Baldoyle Bay SPA</p>

Site Code	Site Name and Designation	Approximate distance from the ÉIRE 6 sign	Qualifying Interest	General Conservation Objectives
004024	South Dublin Bay and River Tolka Estuary SPA	7.6km south west	<ul style="list-style-type: none"> • Brent goose (<i>Branta bernicla hrota</i>), • Sandwich Tern (<i>Sterna sandvicensis</i>), • Roseate Tern (<i>Sterna dougallii</i>), • Common Tern (<i>Sterna hirundo</i>), • Arctic Tern (<i>Sterna paradisaea</i>), • Oystercatcher (<i>Haematopus ostralegus</i>), • Ringed Plover (<i>Charadrius hiaticula</i>), • Knot (<i>Calidris canuta</i>), • Sanderling (<i>Calidris alba</i>), • Dunlin (<i>Calidris alpina</i>), • Bar-tailed Godwit (<i>Limosa lapponica</i>) 	<p>Source: NPWS (2015) Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Accessed 16th November 2020.</p> <p>To maintain the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:</p> <ul style="list-style-type: none"> • Brent goose (<i>Branta bernicla hrota</i>), • Sandwich Tern (<i>Sterna sandvicensis</i>), • Roseate Tern (<i>Sterna dougallii</i>), • Common Tern (<i>Sterna hirundo</i>), • Arctic Tern (<i>Sterna paradisaea</i>), • Oystercatcher (<i>Haematopus ostralegus</i>), • Ringed Plover (<i>Charadrius hiaticula</i>), • Knot (<i>Calidris canuta</i>), • Sanderling (<i>Calidris alba</i>), • Dunlin (<i>Calidris alpina</i>), • Bar-tailed Godwit (<i>Limosa lapponica</i>) <p>To maintain the favourable conservation condition of wetland habitat in South Dublin and the River Tolka Estuary SPA as a resource for the regularly occurring migratory waterbirds that utilise it.</p>

Site Code	Site Name and Designation	Approximate distance from the ÉIRE 6 sign	Qualifying Interest	General Conservation Objectives
000210	South Dublin Bay SAC	7.6km south west	<ul style="list-style-type: none"> • (1140) Mudflats and sandflats not covered by seawater at low tide • Annual vegetation of drift lines [1210] • <i>Salicornia</i> and other annuals colonising mud and sand [1310] • Embryonic shifting dunes [2110] 	<p>Source: NPWS (2013) Conservation Objectives: South Dublin Bay SAC 000210. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Accessed 16th November 2020.</p> <p>To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected:</p> <ul style="list-style-type: none"> • (1140) Mudflats and sandflats not covered by seawater at low tide • Annual vegetation of drift lines [1210] • <i>Salicornia</i> and other annuals colonising mud and sand [1310] • Embryonic shifting dunes [2110]

Site Code	Site Name and Designation	Approximate distance from the ÉIRE 6 sign	Qualifying Interest	General Conservation Objectives
000205	Malahide Estuary SAC	8.1km north west	<ul style="list-style-type: none"> • (1140) Mudflats and sandflats not covered by seawater at low tide • (1310) <i>Salicornia</i> and other annuals colonizing mud and sand • (1320) <i>Spartina</i> swards (<i>Spartinion maritima</i>) • (1330) Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) • (1410) Mediterranean salt meadows (<i>Juncetalia maritimi</i>) • (2130) Fixed coastal dunes with herbaceous vegetation (grey dunes)* • (2120) Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) 	<p>Source: NPWS (2013) Conservation Objectives: Malahide Estuary SAC 000205. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Accessed 16th November 2020.</p> <p>To maintain the favourable conservation condition of the Annex I habitats for which the SAC has been selected:</p> <ul style="list-style-type: none"> • (1140) Mudflats and sandflats not covered by seawater at low tide • (1310) <i>Salicornia</i> and other annuals colonizing mud and sand • (1320) <i>Spartina</i> swards (<i>Spartinion maritima</i>) • (1330) Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) • (1410) Mediterranean salt meadows (<i>Juncetalia maritimi</i>) • (2130) Fixed coastal dunes with herbaceous vegetation (grey dunes)* • (2120) Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)

Site Code	Site Name and Designation	Approximate distance from the ÉIRE 6 sign	Qualifying Interest	General Conservation Objectives
004025	Broadmeadow/Swords Estuary SPA (also known as Malahide Estuary SPA)	8.6km north west	<ul style="list-style-type: none"> • Great Crested Grebe (<i>Podiceps cristatus</i>) [A005] • Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] • Shelduck (<i>Tadorna tadorna</i>) [A048] • Pintail (<i>Anas acuta</i>) [A054] • Goldeneye (<i>Bucephala clangula</i>) [A067] • Red-breasted Merganser (<i>Mergus serrator</i>) [A069] • Oystercatcher (<i>Haematopus ostralegus</i>) [A130] • Golden Plover (<i>Pluvialis apricaria</i>) [A140] • Grey Plover (<i>Pluvialis squatarola</i>) [A141] • Knot (<i>Calidris canutus</i>) [A143] • Dunlin (<i>Calidris alpina</i>) [A149] • Black-tailed Godwit (<i>Limosa limosa</i>) [A156] • Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] • Redshank (<i>Tringa totanus</i>) [A162] • Wetlands & Waterbirds [A999] 	<p>Source: NPWS (2013) Conservation Objectives: Malahide Estuary SPA 004025. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Accessed 16th November 2020.</p> <p>To maintain the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:</p> <ul style="list-style-type: none"> • [wintering] <i>Podiceps cristatus</i> • [wintering] <i>Branta bernicla hrota</i> • [wintering] <i>Tadorna tadorna</i> • [wintering] <i>Anas acuta</i> • [wintering] <i>Bucephala clangula</i> • [wintering] <i>Mergus serrator</i> • [wintering] <i>Haematopus ostralegus</i> • [wintering] <i>Pluvialis squatarola</i> • [wintering] <i>Calidris canutus</i> • [wintering] <i>Limosa limosa</i> • [wintering] <i>Limosa lapponica</i> • [wintering] <i>Tringa tetanus</i> <p>To maintain the favourable conservation condition of the wetland habitat in Malahide Estuary SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.</p>

Site Code	Site Name and Designation	Approximate distance from the ÉIRE 6 sign	Qualifying Interest	General Conservation Objectives
004069	Lambay Island SPA	11.7km north	<ul style="list-style-type: none"> • Fulmar (<i>Fulmarus glacialis</i>) [A009] • Cormorant (<i>Phalacrocorax carbo</i>) [A017] • Shag (<i>Phalacrocorax aristotelis</i>) [A018] • Greylag Goose (<i>Anser anser</i>) [A043] • Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183] ^ • Herring Gull (<i>Larus argentatus</i>) [A184] ^ • Kittiwake (<i>Rissa tridactyla</i>) [A188] • Guillemot (<i>Uria aalge</i>) [A199] • Razorbill (<i>Alca torda</i>) [A200] • Puffin (<i>Fratercula arctica</i>) [A204] 	<p>Source: NPWS (2020) Conservation objectives for Lambay Island SPA [004069]. Generic Version 7.0. Department of Culture, Heritage and the Gaeltacht. Accessed 16th November 2020.</p> <p>To maintain the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:</p> <ul style="list-style-type: none"> • Fulmar (<i>Fulmarus glacialis</i>) [A009] • Cormorant (<i>Phalacrocorax carbo</i>) [A017] • Shag (<i>Phalacrocorax aristotelis</i>) [A018] • Greylag Goose (<i>Anser anser</i>) [A043] • Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183] ^ • Herring Gull (<i>Larus argentatus</i>) [A184] ^ • Kittiwake (<i>Rissa tridactyla</i>) [A188] • Guillemot (<i>Uria aalge</i>) [A199] • Razorbill (<i>Alca torda</i>) [A200] • Puffin (<i>Fratercula arctica</i>) [A204]
000204	Lambay Island SAC	12km north	<ul style="list-style-type: none"> • (1230) Vegetated sea cliffs of the Atlantic and Baltic coasts • (1170) Reefs • (1364) <i>Halichoerus grypus</i> • (1265) <i>Phoca vitulina</i> 	<p>Source: NPWS (2013) Conservation Objectives: Lambay Island SAC 000204. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Accessed 16th November 2020.</p> <p>To maintain the favourable conservation condition of the Annex I habitat and the Annex II species for which the SAC has been selected:</p> <ul style="list-style-type: none"> • (1230) Vegetated sea cliffs of the Atlantic and Baltic coasts • (1170) Reefs • (1364) <i>Halichoerus grypus</i> • (1265) <i>Phoca vitulina</i>

Site Code	Site Name and Designation	Approximate distance from the ÉIRE 6 sign	Qualifying Interest	General Conservation Objectives
004015	Rogerstown Estuary SPA	13.1km north west	<ul style="list-style-type: none"> • Greylag Goose (<i>Anser anser</i>) [A043] • Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] • Shelduck (<i>Tadorna tadorna</i>) [A048] • Shoveler (<i>Anas clypeata</i>) [A056] • Oystercatcher (<i>Haematopus ostralegus</i>) [A130] • Ringed Plover (<i>Charadrius hiaticula</i>) [A137] • Grey Plover (<i>Pluvialis squatarola</i>) [A141] • Knot (<i>Calidris canutus</i>) [A143] • Dunlin (<i>Calidris alpina</i>) [A149] • Black-tailed Godwit (<i>Limosa limosa</i>) [A156] • Redshank (<i>Tringa totanus</i>) [A162] • Wetlands & Waterbirds [A999] 	<p>Source: NPWS (2013) Conservation Objectives: Rogerstown Estuary SPA 004015. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Accessed 16th November 2020.</p> <p>To maintain the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:</p> <ul style="list-style-type: none"> • [wintering] <i>Anser anser</i> • [wintering] <i>Branta bernicla hrota</i> • [wintering] <i>Tadorna tadorna</i> • [wintering] <i>Anas clypeata</i> • [wintering] <i>Haematopus ostralegus</i> • [wintering] <i>Charadrius hiaticula</i> • [wintering] <i>Pluvialis squatarola</i> • [wintering] <i>Calidris canutus</i> • [wintering] <i>Limosa limosa</i> • [wintering] <i>Tringa totanus</i> <p>To maintain the favourable conservation condition of wetland habitat in Rogerstown Estuary SPA as a resource for the regularly occurring migratory waterbirds that utilise it.</p>

Site Code	Site Name and Designation	Approximate distance from the ÉIRE 6 sign	Qualifying Interest	General Conservation Objectives
000208	Rogerstown Estuary SAC	13.7 km north west	<ul style="list-style-type: none"> • (1130) Estuaries • (1140) Mudflats and sandflats not covered by seawater at low tide • (1310) <i>Salicornia</i> and other annuals colonizing mud and sand • (1330) Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) • (1410) Mediterranean salt meadows (<i>Juncetalia maritimi</i>) • (2120) Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) • (2130) Fixed coastal dunes with herbaceous vegetation (grey dunes)* 	<p>Source: NPWS (2013) Conservation Objectives: Rogerstown Estuary SAC 000208. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Accessed 16th November 2020.</p> <p>To maintain the favourable conservation condition of the Annex I habitats for which the SAC has been selected:</p> <ul style="list-style-type: none"> • (1130) Estuaries • (1140) Mudflats and sandflats not covered by seawater at low tide • (1310) <i>Salicornia</i> and other annuals colonizing mud and sand • (1330) Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) • (1410) Mediterranean salt meadows (<i>Juncetalia maritimi</i>) • (2120) Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) • (2130) Fixed coastal dunes with herbaceous vegetation (grey dunes)*

SECTION 3. ASSESSMENT OF SIGNIFICANCE

3.1 ASSESSMENT OF PROPOSED DEVELOPMENT.

The potential impacts of the proposed restoration and management of the ÉIRE 6 sign on nearby Natura 2000 sites were assessed using the following factors:

- size and scale;
- land-take;
- distance from the Natura 2000 site or key features of the site;
- Likely connectivity/pathways from the proposed development to Natura 2000 sites;
- resource requirements (water abstraction etc.);
- emissions (disposal to land, water or air);
- excavation requirements;
- transportation requirements;
- duration/timing of construction, operation, decommissioning, etc;
- reduction of habitat area;
- disturbance to key species;
- habitat or species fragmentation;
- reduction in species density;
- changes in key indicators of conservation value (water quality etc.);
- climate change;
- key relationships that define the structure of the sites; and
- key relationships that define the function of the site.

Brief description of the project or plan	The proposed restoration and management of the ÉIRE 6 sign.
Brief description of the Natura 2000 sites	The ÉIRE 6 sign is located within the boundaries of Howth Head SAC. Other Natura 2000 sites occurring within a 15km radius of the site are as described above in Table 2.2 .
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 sites	There are a number of other plans and project proposed for the Howth Head SAC which in combination with the proposed restoration and management of the ÉIRE 6 sign could give rise to impacts on the Howth Head SAC.
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: <ul style="list-style-type: none"> • size and scale; • land-take; • distance from the Natura 2000 site or key features of the site; • resource requirements (water abstraction etc.); • emissions (disposal to land, water or air); excavation requirements; 	<p>The proposed development is located within the Howth Head SAC.</p> <p>The proposed restoration and management of the ÉIRE 6 sign as initially proposed in the Fingal County Council brief in 2019 would impact on c. 980m² of dry heath/acid grassland habitat within Howth Head SAC.</p> <p>This would require the cutting back of vegetation to expose the sign and ongoing maintenance to ensure it does not become overgrown.</p>

<ul style="list-style-type: none"> • transportation requirements; • duration of construction, operation, decommissioning, etc.; • other 	<p>There are no significant abstractions of water, emissions, excavation requirements or transportation required for the restoration and management of the ÉIRE 6 sign. The use of local non-destructive light vehicles for excavation or transportation work may be required. These would use the existing track infrastructure on Howth Head.</p> <p>There are no impacts envisaged on any other Natura 2000 sites within a 15km radius of the ÉIRE 6 sign.</p>
<p>Describe any likely changes to the site arising as a result of:</p> <ul style="list-style-type: none"> • reduction of habitat area • disturbance to key species; • habitat or species fragmentation; • reduction in species density; • changes in key indicators of conservation value (water quality etc.); • climate change 	<p>The proposed restoration and management of the ÉIRE 6 sign would potentially impact on c. 980m² of dry heath/acid grassland habitat within Howth Head SAC.</p> <p>There are no impacts envisaged on any other Natura 2000 sites within a 15km radius of the ÉIRE 6 sign in terms of reduction of habitat area, disturbance to key species, habitat or species fragmentation, changes in key indications of conservation value or climate change.</p>
<p>Describe any likely impacts on the Natura 2000 site as a whole in terms of:</p> <ul style="list-style-type: none"> • interference with the key relationships that define the structure of the site • interference with key relationships that define the function of the site 	<p>The proposed restoration and management of the ÉIRE 6 sign potentially impacts on the key relationships that define the structure and functions of dry heath/acid grassland habitat within Howth Head SAC.</p> <p>There are no impacts envisaged on any other Natura 2000 sites within a 15km radius of the ÉIRE 6 sign.</p>
<p>Provide indicators of significance as a result of the identification of effects set out above in terms of:</p> <ul style="list-style-type: none"> • Loss • Fragmentation • Disruption • Disturbance • Change to key elements of the site (e.g. water quality etc.) 	<p>The proposed restoration and management of the ÉIRE 6 sign potentially impacts on the key relationships that define the structure and functions of dry heath/acid grassland habitat within Howth Head SAC.</p> <p>There are no impacts envisaged on any other Natura 2000 sites within a 15km radius of the ÉIRE 6 sign.</p>
<p>Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known.</p>	<p>The proposed restoration and management of the ÉIRE 6 sign potentially impacts on the dry heath/acid grassland habitat within Howth Head SAC.</p> <p>There are no impacts envisaged on any other Natura 2000 sites within a 15km radius of the ÉIRE 6 sign.</p>

This section considers the list of Natura 2000 sites detailed in **Table 2.2** and their qualifying habitats and species under the EU Habitats and Birds Directives.

The proposed restoration and management of the ÉIRE 6 sign potentially impacts on the Annex I habitat **European dry heaths [4030]** and areas of acid grassland habitat

within Howth Head SAC. There are no potential impacts on the Annex I habitat **Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]** which are located on the cliffs at some distance from the ÉIRE 6 sign or on the breeding populations of **Kittiwake (*Rissa tridactyla*) [A188]** which are found on the cliffs at Howth.

There are no impacts envisaged on any other Natura 2000 sites within a 15km radius of the ÉIRE 6 sign on account of distance and they were therefore excluded from further assessment.

Detailed mitigation measures will be required to ensure that the potential significant impacts of the proposed restoration and management of the ÉIRE 6 sign on the Annex I habitat European dry heaths [4030]/acid grassland habitat as initially envisaged in 2019 are reduced and ameliorated.

In light of the above a full Stage 2 Appropriate Assessment has been completed.

SECTION 4. APPROPRIATE ASSESSMENT

The Stage 1 Screening for Appropriate Assessment determined that the proposed restoration and management of the ÉIRE 6 sign as originally set out in the brief from Fingal County Council in 2019 would potentially significantly impact on c. 980m² of dry heath/acid grassland habitat within Howth Head SAC.

A full Stage 2 Appropriate Assessment was therefore completed which is the subject of this section of the report.

4.1 Conservation Objectives for 4030 European Dry Heaths

Conservation Objectives for Howth Head SAC have been developed by NPWS (NPWS (2016)). The Conservation Objectives for **4030 European dry heaths** are presented in **Table 4.1** below.

Table 4.1. Conservation Objectives for 4030 European dry heaths

To restore the favourable conservation condition of European dry heaths in Howth Head 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	European dry heath has not been mapped in detail for Howth Head SAC and thus the total area of the qualifying habitat is unknown. Dry heath is the dominant habitat within the SAC and occurs on the slopes above the sea cliffs and in the central part of the peninsula. The habitat occurs in mosaic with other habitats, such dry grassland and exposed rock in places (NPWS internal files)
Habitat distribution	Occurrence	No decline, subject to natural processes	See note on area above
Ecosystem function: soil nutrients	Soil pH and appropriate nutrient levels at a representative number of monitoring stops	Maintain soil nutrient status within natural range	Relevant nutrients and their natural ranges are yet to be defined. However, nitrogen deposition is noted as being relevant to this habitat (NPWS, 2013)
Community diversity	Abundance of variety of vegetation communities	Maintain variety of vegetation communities, subject to natural processes	The diversity of dry heath communities within this SAC is unknown. Information on vegetation communities associated with this habitat is presented in Perrin <i>et al.</i> (2014)
Vegetation composition: lichens and bryophytes	Number of species at a representative number of 2m x 2m monitoring stops	Number of bryophyte or non-crustose lichen species present at each monitoring stop is at least three, excluding <i>Campylopus</i> and <i>Polytrichum</i> mosses	Attribute and target based on Perrin <i>et al.</i> (2014). Dry heath is not necessarily rich in lichen and bryophyte species, but a minimum amount should still be present.

Attribute	Measure	Target	Notes
Vegetation composition: number of positive indicator species	Number of species at a representative number of 2m x 2m monitoring stops	Number of positive indicator species present at each monitoring stop is at least two	Attribute and target based on Perrin <i>et al.</i> (2014), where the list of positive indicator species for this habitat, which is composed of dwarf shrubs, is also presented. Bell heather (<i>Erica cinerea</i>), ling (<i>Calluna vulgaris</i>) and western gorse (<i>Ulex gallii</i>) are listed as present in the dry heath in this SAC (NPWS internal files).
Vegetation composition: number of positive indicator species	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of positive indicator species at least 50% for siliceous dry heath and 50-75% for calcareous dry heath	Attribute and target based on Perrin <i>et al.</i> (2014), where the list of positive indicator species for this habitat, which is composed of dwarf shrubs, is also presented.
Vegetation composition: dwarf shrub composition	Percentage cover at a representative number of 2m x 2m monitoring stops	Proportion of dwarf shrub cover composed collectively of bog-myrtle (<i>Myrica gale</i>), creeping willow (<i>Salix repens</i>) and western gorse (<i>Ulex gallii</i>) is less than 50%	Attribute and target based on Perrin <i>et al.</i> (2014). Bog-myrtle is indicative of flushed conditions and is more characteristic of wet heaths and blanket bogs. Creeping willow is more characteristic of dune heaths. Western gorse is a component of dry heath, but high proportions of it may indicate a history of undesirable levels of grazing
Vegetation composition: negative indicator species	Percentage cover at a representative number of 2m x 2m monitoring stops	Total cover of negative indicator species less than 1%	Attribute and target based on Perrin <i>et al.</i> (2014), where the list of negative indicator species for this habitat is also presented
Vegetation composition: non-native species	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of non-native species less than 1%	Attribute and target based on Perrin <i>et al.</i> (2014). Non-native species can be invasive and have deleterious effects on native vegetation. A low target is set as non-native species can spread rapidly and are most easily dealt with when still at lower abundances. Rhododendron (<i>Rhododendron ponticum</i>) occurs in places on dry heath in this SAC.
Vegetation composition: native trees and shrubs	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of scattered native trees and shrubs less than 20%	Attribute and target based on Perrin <i>et al.</i> (2014). High cover of native trees and shrubs would indicate that the habitat may be succeeding towards scrub or woodland due to lack of grazing.
Vegetation composition: bracken	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of bracken (<i>Pteridium aquilinum</i>) less than 10%	Attribute and target based on Perrin <i>et al.</i> (2014). High cover of bracken would indicate that the habitat may be succeeding towards a dense bracken community.
Vegetation composition: soft rush	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of soft rush (<i>Juncus effusus</i>) less than 10%	Attribute and target based on Perrin <i>et al.</i> (2014). High cover of soft rush would suggest undesirable hydrological conditions. Note however, that poor flushes dominated by soft rush can naturally occur in mosaic with this habitat. Discrete areas of this separate habitat should not be considered here.
Vegetation structure: senescent ling	Condition at a representative number of 2m x 2m monitoring stops	Senescent proportion of ling (<i>Calluna vulgaris</i>) cover less than 50%	Attribute and target based on Perrin <i>et al.</i> (2014). Senescence is part of the natural cycle of ling, but a dominance of ling in the senescent phase would indicate a lack of management (appropriate grazing or burning) to promote ling regeneration.

Attribute	Measure	Target	Notes
Vegetation structure: signs of browsing	Percentage of shoots browsed at a representative number of 2m x 2m monitoring stops	Less than 33% collectively of the last complete growing season's shoots of ericoids and crowberry (<i>Empetrum nigrum</i>) showing signs of browsing	Attribute and target based on Perrin <i>et al.</i> (2014)
Vegetation structure: burning	Occurrence in local vicinity of a representative number of monitoring stops	No signs of burning in sensitive areas	Attribute and target based on Perrin <i>et al.</i> (2014), where the list of sensitive areas for this habitat is also presented. Fires can be part of the natural cycle of dry heath and may also be used as a valuable management tool to promote a diversity of growth phases in ling (<i>Calluna vulgaris</i>). However, fires which are too intense, too frequent, too extensive or which occur in sensitive areas are damaging to the habitat.
Vegetation structure: growth phases of ling	Percentage cover in local vicinity of a representative number of monitoring stops	Outside sensitive areas, all growth phases of ling (<i>Calluna vulgaris</i>) should occur throughout, with at least 10% of cover in the mature phase	Attribute and target based on Perrin <i>et al.</i> (2014), where the list of sensitive areas for this habitat is also presented. The growth phases of ling are pioneer (<10cm high), building (10-30cm high) and mature (<30cm high). As burning is undesirable in sensitive areas, it is not reasonable to require the stated diversity of growth phases within these areas.
Physical structure: disturbed bare ground	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of disturbed bare ground less than 10%	Attribute and target based on Perrin <i>et al.</i> (2014). Disturbance can include hoof marks, wallows, human foot prints and vehicle and machinery tracks. Excessive disturbance can result in loss of characteristic species and presage erosion for heaths and peatlands.
Indicators of local distinctiveness	Occurrence and population size	No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat	This includes species listed in the Flora (Protection) Order, 2015 (FPO) and/or the red data lists (Lockhart <i>et al.</i> , 2012; Wyse Jackson <i>et al.</i> , 2016).

4.2 Habitat Condition Assessment - Howth Head SAC

As part of the Heathland Study of Howth Head, Co. Dublin conducted by Barron, S.J. & Perrin, P.M. in 2019 this general part of the Howth Head SAC (East Mountain) was surveyed.

Plots for conducting the habitat condition assessment studies for dry heath were conducted across the SAC and the closest of these to the ÉIRE 6 sign was Plot 3 as can be seen on **Figure 6** below.

The habitat in the general environs of the ÉIRE 6 sign was classified by Barron & Perrin (2019) as Western Gorse/Bell Heather as can be seen on **Figure 7** below.

The heath habitat in the general environs of the ÉIRE 6 sign was classified by Barron & Perrin (2019) as being in good condition as can be seen on **Figure 8** below. The heath here is classified as mature as can be seen on **Figure 9** below.



Figure 6. Location of vegetation plots (Barron & Perrin 2019). Plot 3 (circled in red) is located close to the ÉIRE 6 sign (indicated by the red arrow).

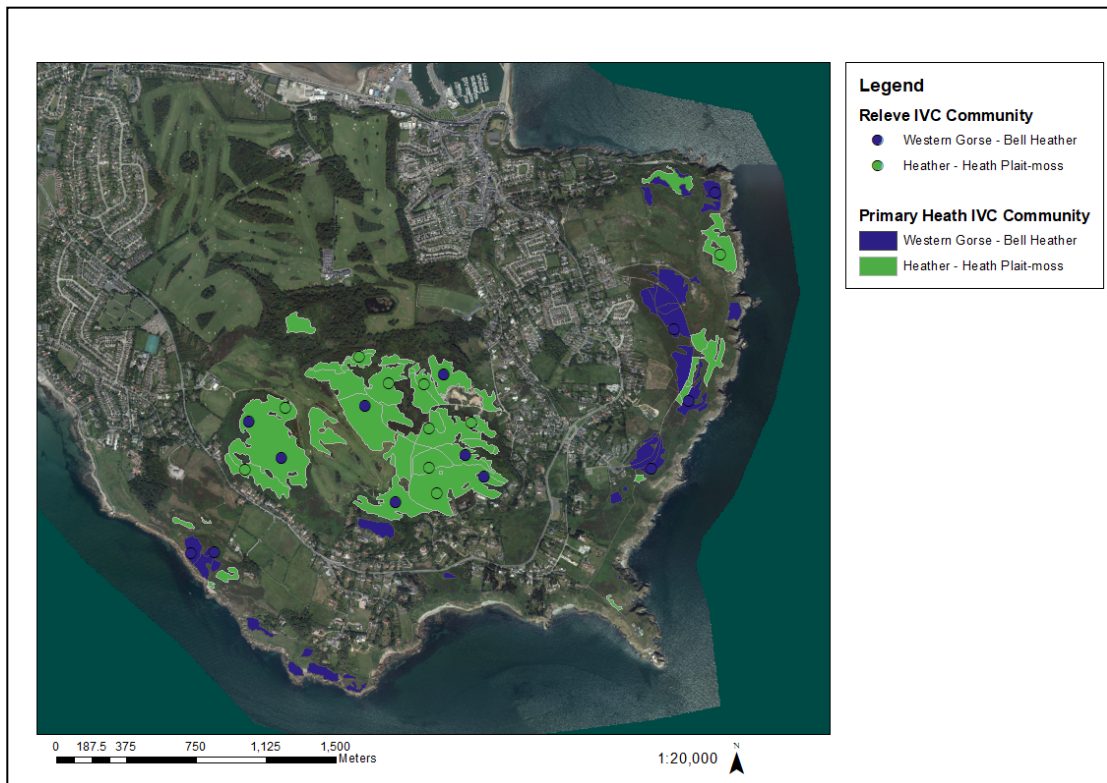


Figure 7. Classification of plots (relevés) to the IVC and primary IVC heath community in each polygon (Barron & Perrin 2019). The ÉIRE 6 sign is located within the Western Gorse - Bell Heather community.

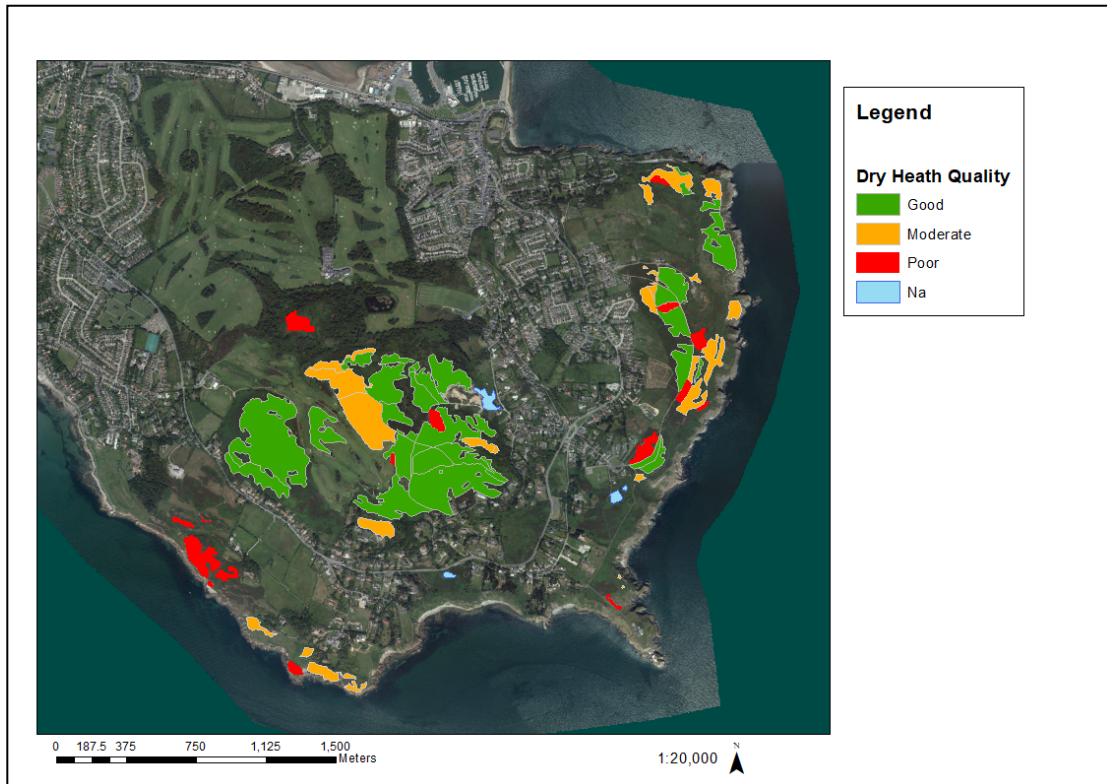


Figure 8. Rapid Condition Assessment of the Dry Heath within the Howth Head survey area. 'Na' indicates not assessed (Barron & Perrin 2019). The general area of habitat where the ÉIRE 6 sign is located was assessed as being 'Good Quality' Dry Heath.

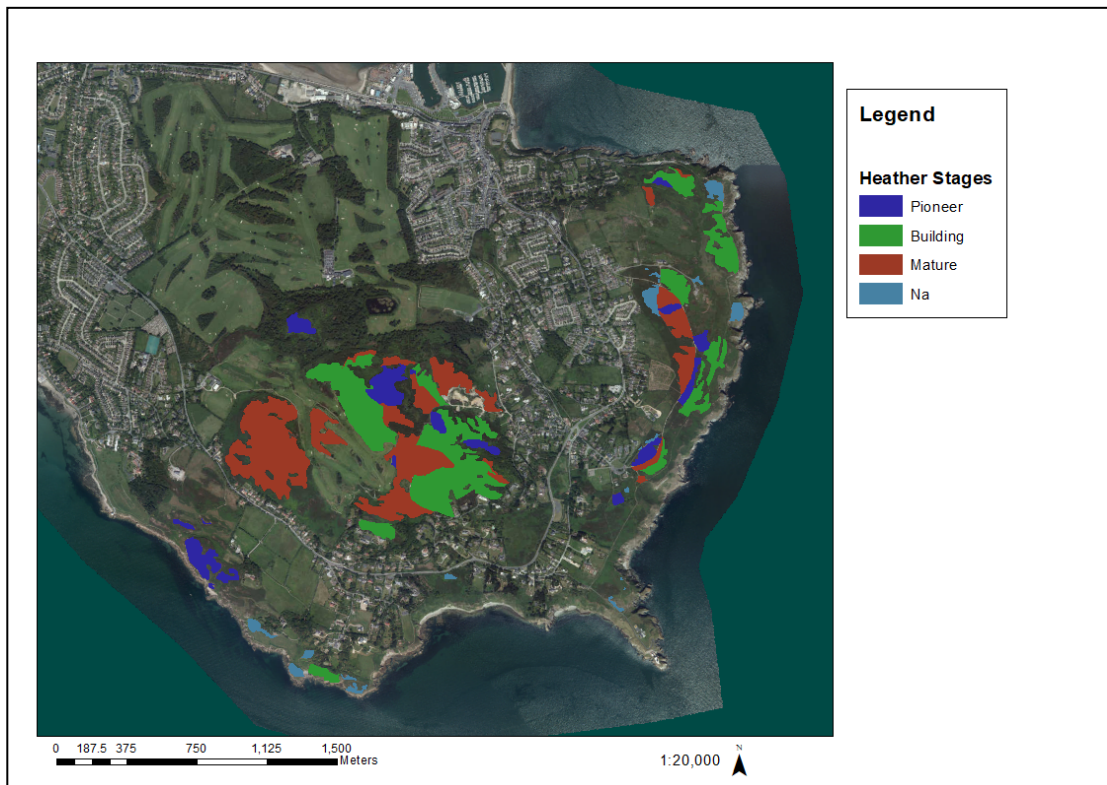


Figure 9. Growth stages of Heather within the Dry Heath at Howth Head survey area. 'Na' indicates not assessed (Barron & Perrin 2019). The general area of habitat where the ÉIRE 6 sign is located was assessed as being 'Mature Heather'.

However more specifically Plot 3 which was conducted close to the ÉIRE 6 sign failed the structure and functions habitat condition assessment as shown in **Table 4.2** below. This is on account of lack of bryophytes and lack of structure.

Table 4.2. Structure and Functions assessment of plots conducted on Howth Head in 2019 by Barron & Perrin following Perrin *et al.* (2014) (Barron & Perrin 2019) *.

P = Criterion passed, F = Criterion failed and NA = Criterion not applicable.

Plot no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
No. bryophytes/macrolichens $\geq 3^a$	F	F	F	F	F	P	F	F	F	F	F	P	F	F	P	P	F	F	F	P	F	F	F
No. positive indicators $\geq 2^b$	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	F	P	P	P	P	P
Positive indicators $\geq 50\%$	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	F	P
Dwarf shrub = <i>Ulex gallii</i> <50%	P	F	P	F	P	P	P	P	P	P	P	P	P	P	P	P	F	P	P	P	P	F	P
Negative (weed) indicators <50%	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Aliens <1% of plot ^c	P	P	P	P	P	P	P	F	F	P	F	P	P	P	F	F	P	P	P	P	P	P	P
Aliens <1% vicinity ^d	P	P	P	P	P	P	P	F	F	P	F	P	P	P	F	F	P	P	P	P	P	P	P
Scattered trees/shrubs <20%	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
<i>Pteridium aquilinum</i> <10% vicinity	P	P	P	P	P	P	P	P	P	P	P	P	F	P	P	P	P	P	P	P	P	P	P
<i>Juncus effusus</i> <10% vicinity	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Heather = senescent <50% plot	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
No. browsed shoots <33%	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
No burning in sensitive areas ^{e,f}	P	NA	NA	NA	NA	P	F	F	F	NA	NA	P	P	F	P	F	NA	NA	NA	NA	NA	F	F
Structure outside sensitive areas ^f	NA	F	F	F	F	NA	NA	NA	NA	F	F	NA	NA	NA	NA	NA	F	F	F	F	F	NA	NA
Disturbed ground <10% plot	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Disturbed ground <10% vicinity ^g	F	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

- Not including Heath Star-moss
- Within this dataset these comprise Heather, Bell Heather, Western Gorse
- Within this dataset this refers only to Heath Star-moss
- Extrapolated from plot data
- Plots failed where there was evidence of recent burning
- Areas with soils <5 cm were regarded as sensitive areas
- Single failure due to high density of footpaths in vicinity of that plot

*** Plot 3 which is located close to the ÉIRE 6 sign is circled in red.**

The overall Structure and Functions parameter for dry heath on Howth was assessed in 2019 by Barron & Perrin (2019) as **Unfavourable-Bad** as >25% of the Dry Heath habitat is in an unfavourable condition. The Rapid Condition Assessment conducted by Barron & Perrin (2019) using less detailed criteria, indicated that 31.8% of Dry Heath area was **moderate or poor quality**, which supports this assessment. The overall conservation assessment for dry heath habitat on the Howth Head SAC was assessed as **Unfavourable - Bad** as presented in **Table 4.3** below.

Table 4.3: Conservation status assessment for Dry Heath at Howth Head SAC (Barron & Perrin (2019)).

Parameter	Area	Structure and functions	Future Prospects	Overall assessment
Summary of result	Losses noted in the field but unlikely to equate to more than 1% per year	More than 25% of plots failed the assessment.	Threats were noted in the field	One or more 'red'
Assessment	Unfavourable - Inadequate (amber)	Unfavourable - Bad (red)	Unfavourable - Inadequate (amber)	Unfavourable - Bad (red)

4.3 Habitat Condition Assessment for the ÉIRE 6 sign

Using the habitat monitoring criteria developed for the Annex I habitat 4030 European Dry Heaths by Perrin *et al.* 2014 the heath habitat surrounding the ÉIRE 6 sign would also be deemed to be in ‘**unfavourable**’ condition, albeit in a mature state as it would fail on account of structure and functions in terms of lack of bryophytes and lack of structure.

This is on account of lack of grazing or other forms of management. Lack of active management has resulted in large areas dominated by Western gorse, *Ulex gallii*, Ling, *Calluna vulgaris*, and Bell heather, *Erica cinerea* into which European gorse, *Ulex europaeus* has encroached and is only held in check on account of exposure on the site.

The area of dry heath in the vicinity of the ÉIRE 6 sign lacks structural diversity and the understory of mosses and lichens such as those found outside the study area.

Dry heath in good condition should show all growth phases of Ling heather, which is lacking in this location and Western gorse dominates much of the habitat here.

As reported by Barron & Perrin (2019):

The SSCOs for Howth Head SAC (NPWS 2016) give the overall conservation objective for Dry Heath as ‘maintain the favourable condition’. However, based on the assessment presented above, it is more appropriate for the overall objective to be ‘restore the favourable condition’.

The management recommendations set out below aim to achieve that objective – the restoration of the habitat to favourable condition while also allowing the restoration and management of the ÉIRE 6 sign.

4.4 Mitigation Measures following Habitat Condition Assessment

The findings of the ecological survey and assessment of impacts of different methods of exposing the ÉIRE 6 sign were presented in the Advisory Report prepared by Dr Curtis and Faith Wilson to Fingal County Council in 2019.

These were reviewed by Fingal County Council. Following that review a meeting was held on site on the 16th July 2019 attended by Faith Wilson with Hans Visser (Biodiversity Officer) and Cornelia Raftery (Parks Department) of Fingal County Council.

At that meeting the outcome of the assessment and the logistics of managing the site in the long term coupled with the expected resource requirements from the local community of Fingal County Council were discussed.

The potential methodologies for the exposure and long term management of the ÉIRE 6 sign, the potential impacts on the Annex I habitat, its conservation objectives and current habitat condition were further teased out and considered.

The various management options presented in the Advisory Note are given in **Appendix I** and from these the options the following final management recommendations were proposed and agreed with Fingal County Council. These are as follows:

1. There must be no more vegetation removed next to/adjacent to the path – the mature heather and heath habitat in this area must be retained at its existing height. This is to reduce trampling impacts by visitors, which has increased, as visitors are naturally curious about the exposed stones.
2. The vegetation surrounding the letters is to be flailed with a tractor or mower to allow the remaining stones/letters to be found and their location and extent delineated. This work will be done under the supervision of a plant ecologist and will be kept to a minimum.
3. A smaller area than that initially proposed for clearance as shown in **Figure 5** (980m²) should be removed. Clearance of vegetation should only take place in the immediate vicinity of the letters. The triangular shape, square box surround and additional path to the north of the sign as shown in **Figure 5** are not to be created. This has reduced the area of habitat impacted from 980m² to 298m².
4. All mowing/flailing is to take place outside the bird breeding season (i.e. it must be done between the 1st September and 28th February) and once the heather seed has set.
5. All mowings/cuttings must be raked, removed and disposed of as they pose a high fire risk to the area and to the habitats within the SAC. Costs for same should be sought and funding approved and secured before any further works continue.
6. It is assumed that any stones uncovered will be of similar size to those previously unearthed. These are very small and insignificant and are already disappearing under regenerating gorse. Compared to other ÉIRE signs around the country, which remain easily visible in long heathy vegetation such as on Malin Head or Killiney, these smaller stones may only represent the remnants of the sign – larger stones may have been removed and added to stone walls in the area in the area in intervening years. It is unrealistic to expect the long term exposure of stones of the current size to remain clearly visible without significant interventions and subsequent impacts on the adjoining heath habitat.
7. Therefore once the location and extent of the remaining letters has been defined it is recommended that additional stones c.20-30cm in diameter are brought to the site and added. These will need to be of siliceous nature and ideally should be of local origin (i.e. from the Howth Peninsula). They can then be painted white/whitewashed as has been done in other locations to make them more visible.
8. The vegetation between the letters can then be mown/strimmed to c.5-10cm either annually/biannually depending on the levels of regrowth and vegetation between the stones within the letters which are overgrowing them can be either trimmed manually with a secateurs or treated with vinegar (the use of other herbicides such as 'Roundup' will not be permitted).
9. In order to reduce trampling impacts (which can be clearly seen across the path where a concrete seat is located (and elsewhere on Howth Head)) it is recommended that a dedicated viewing platform/raised area is created along the edge of the path. This will allow people to better view the sign once it is exposed and could also provide additional seating and tie in with the new tram benches already installed. It will also act as a deterrent (coupled with the use of larger

stones) of reducing the likelihood of people taking 'souvenir' stones from the area.

10. Areas of trampled ground in the vicinity of the letters which have already been exposed will need to be lightly scarified with a rake to allow vegetation on them to regenerate.
11. A suitably qualified ecologist should oversee the various stages of the exposing of the ÉIRE 6 sign and the subsequent maintenance by the community group.

It was concluded, that if the mitigation and methods outlined above are followed for exposing the sign and for maintaining it, then no significant loss of dry heath habitat will result and the integrity of the site will not be compromised.

The interventions proposed above whilst allowing for the exposure and uncover of the ÉIRE 6 sign and its subsequent maintenance will restore the structure of heath habitat in this part of the SAC.

The Howth ÉIRE 6 Restoration Group is in full agreement with the management recommendations above.

4.5 Cumulative/In Combination Impacts

The EC Habitats Directive, the Planning Acts and the Habitats Regulations 2011 require that the impacts on Natura 2000 sites from the plan or project in question are assessed and that they are assessed in combination with other plans and projects that could affect the same Natura 2000 sites.

The Appropriate Assessment Screening Process identified other plans and projects that could act in combination with the proposed development to pose likely significant effects on European sites within the study area and its environs.

These include recommendations and management measures within the following:

- The Howth Head Wildfire Management Measures - Phase I Autumn/Winter 2020 proposed by Fingal County Council.
- The Howth Peninsula Fire Management Plan developed by Fingal County Council.
- Denyer, J. and R. Hodd (2019). Howth and Ireland's Eye Bryophyte Survey. Unpublished Report prepared for Fingal County Council.
- HIS (2019). Common Lizard, *Zootoca vivipara* (Lichtenstein, 1823), Survey of Howth 2019. Unpublished Report prepared for Fingal County Council.
- NATURA (2018). Howth Head Breeding Bird Surveys 2018. Unpublished Report prepared for Fingal County Council.
- Barron, S.J. & Perrin, P.M. (2019). Heathland Study, Howth Head, Co. Dublin. Unpublished report prepared for Fingal County Council.
- Ní Dhúill, E. and Smyth, N. (2018a). *Rhododendron ponticum* L. on Howth Summit, Co. Dublin. Unpublished report prepared for Fingal County Council.
- Ní Dhúill, E. and Smyth, N. (2018b). Invasive species mapping, Howth, Co. Dublin. Unpublished report prepared for Fingal County Council.

- JBA (2018). Natura Impact Statement prepared for The Howth Head - Looped Paths Remediation Project. Unpublished report prepared for Fingal County Council. (Project completed in 2019/2020).
- The Fingal County Development Plan 2017-2023.

The habitat, species and site management recommendations and plans set out in these various studies and reports were considered when assessing the potential impact of the proposed restoration and management of the ÉIRE 6 sign.

The proposed restoration and management of the ÉIRE 6 sign in combination or cumulatively with the above plans and projects is not likely to have a significant effect on the qualifying interests of the Howth Head SAC or any of the Natura 2000 sites identified.

SECTION 5. CONCLUSIONS

This Natura Impact Statement has evaluated the proposed restoration and management of the ÉIRE 6 sign on Howth Head to determine whether or not significant negative impacts on the integrity of Natura 2000 sites are likely to arise by virtue of its restoration and subsequent management.

The following questions are duly considered with regard to the potential loss of habitat as a result of exposing the ÉIRE 6 sign:

1. Will the loss of habitat as a result of the proposed exposure of the ÉIRE sign, cause delays in progress towards achieving the conservation objectives of the Howth Head SAC?

In short, no as the loss of habitat between the stones of the letters is minor once the mitigations methods proposed above for leaving the existing vegetation surrounding the exposed letters are followed. The conservation of the lichen-dominated area of heath will be ensured through lack of impact and encroachment on it.

2. Will the loss of habitat interrupt progress towards achieving the conservation objectives of the site?

Following mitigation, no significant adverse residual impacts have been identified that will prevent achievement of the conservation objectives of the assessed site.

3. Will the loss of habitat disrupt those factors that help to maintain the favourable conditions of the site?

No there will be no significant loss of habitat to the extent that factors that help to maintain the favourable conditions of the site will be disrupted.

4. Will the loss of habitat within the Howth Head SAC interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?

No, the distribution and density of key species, which are indicators of the favourable condition of the site will be maintained.

5. Will the loss of habitat cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?

No, there will be no modifications/changes to vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem.

6. Will the loss of heath land within the Howth Head SAC change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?

The area of heath proposed for removal to expose the stones has been reduced from 980m² to 298m². The triangular shape, square box surround and additional path to the north of the sign as shown in Figure 5 are not to be created. The Howth

ÉIRE 6 Sign Restoration Group are in full agreement with this recommendation and mitigation measure.

There will be no changes to the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site.

7. Will the loss of habitat within the Howth Head SAC interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?

No, the loss of habitat within the Howth Head SAC will not interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition).

8. Will the loss of habitat within the Howth Head SAC reduce the area of key habitats?

No, potential adverse impacts on the heath habitat of the Howth Head SAC (000202) are not expected given the mitigation measures that have been detailed.

9. Will the loss of habitat within the Howth Head SAC reduce the population of key species?

No, there will be no reduction in the population of key species within the Howth Head SAC.

10. Will the loss of habitat within the Howth Head SAC reduce the flora diversity of the site?

No, there will be no reduction in the floral diversity in heath habitat within the Howth Head SAC.

11. To determine if the loss of habitat within the Howth Head SAC could result in habitat fragmentation?

No, there will be no fragmentation of heath habitat within the Howth Head SAC. This is not an area isolated from the rest of the heath. Good habitat adjoins it to the north, south and west though there is some existing discontinuity to the east due to the existing track.

12. To determine if the loss of habitat within the Howth Head SAC could result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding, etc.)?

To all of these questions posed in 5 through to 16 the answer is no, as the area of heath impacted by the proposed works will not be totally lost but modified.

13. Concluding statement if the loss of habitat as a result of the exposure of the ÉIRE sign within the Howth Head SAC could be considered significant and affect the integrity of the Howth Head SAC.

It is concluded, that if the mitigation and methods outlined above are followed for exposing the sign and for maintaining it, then no significant loss of habitat will result and the integrity of the site will not be compromised.

It is concluded that there will be no negative impacts on the qualifying interests of any Natura 2000 sites within a 15km radius of the ÉIRE 6 sign given the implementation of the mitigation measures as set out in **Section 4.4**.

This report finds that the proposed restoration and management of the ÉIRE 6 sign on Howth Head will not, either individually or cumulatively in combination with the other identified plans and projects, adversely affect the integrity of any Natura 2000 site.

Based on the information provided above, and by applying the precautionary principle, it was determined that it was possible to rule out likely significant impacts on any Natura 2000 site from the proposed restoration and management of the ÉIRE 6 sign on Howth Head and therefore it was not deemed necessary to undertake any further stage of the Appropriate Assessment process.

Activity Requiring Consent

As the proposed restoration and management of the ÉIRE 6 sign on Howth Head is located within a Natura 2000 site consent must be sought from the Minister for Housing, Local Government and Heritage for the works. This is known as an 'ARC'.

Activities requiring consent (ARCs) are specific activities which have the potential to damage a Special Area of Conservation (SAC) or Special Protection Area (SPA). SACs and SPAs are collectively termed 'European sites' or 'Natura 2000 sites'.

A list of 38 ARCs has been established, ranging from "Reclamation, including infilling" to "Lighting up caves, buildings or other places used by bats for roosts". The particular ARC or ARCs attached to a European Site depends on the habitats and/or species for which the site is protected.

For Howth Head specific ARCs are not yet available but the relevant one would be:

ARC-05 - Cutting, uprooting or otherwise removing plants. [Consent is not required for harvesting of cultivated crops, or for grazing or mowing.]

ARCs are not prohibited activities but before being carried out, consent must be granted by the Minister for Housing, Local Government and Heritage ('the Minister') or by another relevant public authority to which the consent function for that activity falls.

This prior consent requirement ensures that the Minister (or the relevant competent authority) carries out the necessary environmental assessment to determine if the activity can take place and if any conditions should be attached to any consent given.

It is an offence to carry out an ARC without prior consent.

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SECTION 7. Appendix I: Assessment of impacts of different methods of exposing and maintaining the ÉIRE 6 sign presented in Advisory Note to Fingal County Council in 2019.

7.1 Controlled Burning

The brief stated that;

‘this would be carried out under the supervision of experienced practitioners and advice sought from local Fire and Rescue Service, prior to planning to burn. Within Designated Areas (SPAs, SAC’s, NHA’s) the National Parks and Wildlife Service must be notified and Notifiable Action authorisation obtained’.

Having seen the effects of fire some months after its occurrence on the area below the path (which is described above) this method of control and maintenance is not recommended. The paucity of species following burning, especially those species of the Pea Family, which are nitrogen-fixers and the consequent poverty of the soil, make this method un-desirable. There is also the issue of managing to adequately control the burn and not allow the flames to encroach on adjacent areas of value. This is especially so for those areas in the north-east corner which are lichen-covered and which would succumb quickly to fire. The colonies here are approximately 80 years old, typical of older heath and damage to this area would result in a significant loss of biodiversity. There is also the very high probability that Gorse would gain a competitive advantage over other species as fire stimulates its seed bank to germinate more quickly than its competitors. Thus burning would result in loss of diversity and the likelihood of Gorse completely dominating the vegetation.

7.2 Mechanical Methods

The brief stated that;

‘mechanical methods include mechanical swiping, mowing or flailing and are less subject to weather influences and therefore easier to undertake between 1st September and 28th February, which is the legal period for the control of growing vegetation on uncultivated land’.

Carefully planned mechanical removal is stated to be more effective than fire for long term control of gorse and this is recommended. The area covered by the ÉIRE Sign is stated to be not so large so physical controls for the gorse could consist of removing plants by hand, rather than by machinery. This can be done provided it is recognised that the sward consists mostly of Western gorse and heathers and is not a mono-dominant stand of the common Gorse.

The brief further stated that;

‘after plants have been physically removed, gorse sprouting from the seed bank must then be treated for several consecutive years. Mulching can be used as needed after removal. Stems of gorse plants can be chipped and spread as mulch. This can be undertaken without interfering with the adjacent areas of habitats’.

It is suggested that any allowable future work to recover the sign would be undertaken by local interested groups using manual methods only and supervised by Fingal County Council but it is recommended that they are accompanied by a competent plant ecologist who can oversee the work.

7.3 Grazing

The brief also stated that;

'as repeated control efforts over several years are typically required to effectively suppress gorse a livestock grazing program is an option. Gorse stems and leaves end in a sharp spine, making the plants impenetrable to animals and unpalatable to livestock, except goats. Gorse may need to be grazed for at least five consecutive years to exhaust the soil seed bank and achieve complete suppression of existing plants'.

This is so but using goats will result in them favouring the non-spiny species such as the heathers and grasses as once again it is emphasised that the area is covered by a diverse range of plants and not just Gorse.

Grazing with goats is indeed an option but the complete suppression of existing plants will result in bare soil which will be in danger of blowing away especially on the windy slopes of Howth Head.

In summary our preliminary recommendation was as follows:

It would be far more desirable if the ÉIRE 6 sign only was exposed and the surrounding vegetation left in situ so that the letters are effectively set within a sward of existing vegetation. In that scenario the surrounding vegetation can be trimmed and kept short on an ongoing basis and any colonisation of the letters by either Gorse or other species can be effectively weeded-out.

The recommendation is that only the letters of the ÉIRE 6 sign are exposed through the mechanical removal of vegetation which is currently covering them and that the rest of the vegetation in the surroundings is left intact, though shortened through mechanical means. Similar methods should be used for the ongoing maintenance of the area.

The fada on the ÉIRE 6 sign should be reinstated also – this has not been done at some of the other WW2 ÉIRE sign sites.