



Preliminary Ecological Appraisal Report

Preliminary Ecological Appraisal Report
for potential housing site in Derrybeg (Gweedore), Co. Donegal
adjacent to the regional road R257.

Greentrack Environmental Consultants

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1 INTRODUCTION

Greentrack Consultants have been instructed by Donegal County Council to undertake a Preliminary Ecological Appraisal Report (PEAR) for the potential purchase and design of a site for housing in Derrybeg. The PEAR is to examine (through field and desk study) environmental matters such as watercourses, designated sites, invasive species etc relating to the site, and provide an overview on same that may be taken into consideration in the purchase/design specification decision making process.

2 METHODOLOGY

2.1 Purpose of this Report

This PEAR report aims to provide initial information on:

- General description of the site
- Bedrock and aquifer properties of the site
- Groundwater karst data and Source Protection Areas
- Flood risk assessment
- Watercourses draining the site, hydrological connection and Water Framework Directive (WFD) status
- Watercourse designation and fisheries value
- Habitats present on site and in immediate surrounding area.
- Nearest Natura 2000 sites: SAC, SPA, Margaritifera SAC Catchment & connectivity
- Species present
- identify the likely ecological constraints associated with proposed development.
- identify any additional surveys that may be required to inform an Appropriate Assessment Screening Report

2.2 Legislation, Policy and Guidance Documents

This report was carried out in accordance with relevant guidance, in particular:

- EU Birds Directive 2009/147/EEC.
- EU Habitats Directive 92/43/EEC
- Flora (Protection) Order, 2022, S.I. No. 235 of 2022
- Wildlife Act, 1976
- Wildlife (Amendment) Act, 2000
- CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- CIEEM (2017) Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Fossitt (2000) A Guide to Habitats in Ireland. The Heritage Council, Kilkenny.
- Smith, G.F., O'Donoghue, P., O'Hora, K. and Delaney, E. (2011) Best Practice Guidance for Habitat Survey and Mapping. Heritage Council, Kilkenny.
- National Roads Authority (2009) Guidelines for Assessment of Ecological Impacts of National Roads Schemes

2.3 Desk Study

A desk-based analysis was conducted to obtain information on geological, hydrological and ecological features in the vicinity of the proposed site, and to source pathway receptors avenues of connectivity to potential sensitive receptors.

- Latest boundary data for Designated sites, available from www.npws.ie/mapsanddata (Accessed April 2024)

- NPWS Site Synopsis and Conservation Objectives, available at www.npws.ie (Accessed April 2024)
- Hydrological data from the EPA available from www.gis.epa.ie/GetData/Download (Accessed April 2024)
- The National Biodiversity Data Centre (NBDC) website was consulted with regard to species records and distribution (www.maps.biodiversityireland.ie) (Accessed April 2024)
- Flood information was obtained from www.floodinfo.ie (accessed April 2024).
- Geological & Hydrogeological information was sourced through the Geological Society of Ireland www.gsi.ie (Accessed April 2024)

2.4 Field Study

A multidisciplinary site walkover took place on 9th April 2024. Site characteristics and incidental observation of species were noted during visits. A phase 1 equivalent habitat survey was conducted. Species identification informed classification of habitats to Fossit's level 3. Site suitability for birds, terrestrial mammals, amphibians, reptiles, and invertebrates was investigated. Hydrological features and potential avenues of hydrological connectivity were assessed.

2.5 Statement of Authority

This report has been compiled by Daniel Faulkner and Colin Farrell of Greentrack.

Daniel Faulkner is an Ecologist with Greentrack. Daniel completed his undergraduate degree in Environmental Science at NUIG prior to obtaining a Master's of Science in Environmental Sustainability at UCD. He has contributed to projects requiring Environmental Impact Assessment, Ecological Impact Assessment, and Appropriate Assessment. Daniel has led multiple Invasive Alien Species Surveys and Management Programmes.

Colin Farrell is a geochemist with Greentrack. Colin holds a BSc. Geochemistry from Reading University and MSc Applied Environmental Science from Queens University Belfast. Colin has over 10 years' experience working with Greentrack in dealing with Site Remediation works, Quarry assessments, Flood Risk assessment, hydrological and hydrogeological reports.

3 DESCRIPTION OF THE PROJECT

3.1 Project Description

The proposal is for a housing project on a predominantly greenfield site in Derrybeg (Gweedore), Co. Donegal adjacent to the regional road R257. The site is approximately 0.79 ha in size. There are proposals to construct 16 no. housing units as part of Phase 1 of the development and 7 no. housing units as Phase 2 of the development. A draft drawing has been supplied which gives an indicative layout of the potential proposal. This is presented in Figure 3.1 below.

Figure 3.1: Draft layout of the proposal

(Supplied by Donegal County Council – not to scale)

3.2 Characteristics of the Project

The project is to construct a housing development on the site.

3.2.1 Construction Stage

It is assumed that the project will follow a Construction and Environmental Management Plan for all construction activities on site.

3.2.2 Operational Stage

This will involve normal day to day use of a housing development.

4 THE RECEIVING ENVIRONMENT

4.1 General Location

The subject site is located adjacent to the regional R257 road. Access to the site is directly off the R257. Figure 4.1 below shows the site location.

Figure 4.1: Site Location

CYAL50381113 © Ordnance Survey Ireland/Government of Ireland

4.2 Geology, Soils and Hydrogeology

4.2.1 Bedrock Geology

The site is underlain by granite. The bedrock is classified by the GSI as Thorr Granite, a coarse grained monzogranite to tonalite.

4.2.2 Bedrock Aquifer

The underlying aquifer of the site is classified by the GSI as a Poor Aquifer (Pu) – Bedrock which is generally unproductive.

4.2.3 Soils

The vast majority of the site is classified as made ground. The western corner of the site is classified as Blanket Peat by Teagasc.

4.2.4 Karst Features

There are no Karst features anywhere within a 40km radius of the subject site. The nearest Karst feature is an enclosed depression at Loughesk approximately 45km south of the site.

4.2.5 Groundwater wells, Source Protection Areas & Group Water Scheme Abstraction Points

The nearest well is a dug well at Corveen approximately 4.8km northeast of the subject site. The nearest Source Protection Area is located 11.5km to the southeast of the site at Meenabool.

4.3 Hydrology

4.3.1 Flood Risk

The flood risk was assessed using the online tool created by the Office of Public Works. An extreme layer modelling both high end Catchment Flood Risk Assessment Maps (CFRAM) for coastal and fluvial scenarios was engaged. Modelling included a 30% increase in rainfall and a sea level rise of 1,000 mm.

The site or surrounding area was shown not to be at risk of flooding. There were no historical records of past flood events on the site. The nearest recurring flood site is approximately 250 m to the north of the site where the Catheen River floods onto the R257. There is another recurring historical flood site c.1km to the west at Magheragallon where low lying lands are flooded by a tributary of the Catheen River.

4.3.2 Hydrological setting

The site lies within the 38-Gweebarra - Sheephaven Water Framework Directive (WFD) catchment, the Gweedore WFD sub catchment and the Catheen river sub basin (EPA code: IE_NW_38C030200).

The site is low lying and relatively flat with a very gentle slope from southeast to northwest. The majority of the site is made ground. There are no natural watercourses or drainage features present on site. Most of the incident rainfall percolates to ground. There is an open drainage ditch running along the western and northern boundaries of the site. This watercourse is listed as a tributary of the Catheen River system. Flow from this watercourse is northwest towards Maghera Strand and Gweedore Bay.

The approximate hydrological distance from the site to the nearest SAC (Gweedore Bay and Islands SAC) is 570m. The WFD status of the Catheen river is assessed as poor by the EPA for the period 2016 - 2021. The WFD status of the underlying groundwater body is assessed by the EPA as good for the period 2016 – 2021. The Catheen river is not designated as a Salmonid water under SI No 293 of 1988 – EC (Quality of Salmonid waters) Regulations, 1988, and does not contain the annex 1 species, the freshwater pearl mussel (*Margaritifera*). The site does not form part of any *Margaritifera* catchment area.

4.4 Habitats on Site

The site is a mosaic of several habitats. Most of the site has been formed from made ground and there is evidence of several exotic and invasive species present on site. Most of the site is classified as Dry calcareous and neutral grassland (GS1). The site grades to scrub on progress towards the western corner. Scrub is dominated by briars (*Rubus spp.*) with occasional Gorse (*Ulex europaeus*), Willow (*Salix spp.*) and Exotics.

There is a small area of hardstanding (BL3) near the R257. A mixed hedgerow (WL1) is present along the southern boundary of the site. There are many exotic species contained within the hedgerow such as Griselinia (*Griselinia littoralis*), Cotoneaster (*Cotoneaster spp.*), Hebe (*Hebe spp.*), Pampas grass (*Cortadeira selloana*), Cabbage tree palm (*Livistona australis*) that are mixed with more common species such as Gorse Sycamore (*Acer pseudoplatanus*), Sitka Spruce (*Picea sitchensis*) and Willow. There are also partial hedgerows along the northeastern and northwestern boundaries of the site. Similar species are present along the northeastern boundary whereas the northwestern boundary partial hedgerow is dominated by small trees of Lodgepole pine (*Pinus contorta*), Willow and Sycamore.

Rhododendron (*Rhododendron ponticum*) is predominantly found along and in proximity to the southern boundary. The Invasive Alien Species Survey and Management Plan produced for the site provides more detail on the extent of Rhododendron on site and control measures proposed.

Photograph 4.1: Overview of the site looking north.



Photograph 4.2: Grassland grading to scrub in the west of the site.



Photograph 4.3: Mixed hedgerow along southern boundary of site.



4.5 Invasive Species

A walkover terrestrial invasive species survey of the subject site was carried out on 19th April 2024. The survey was carried out for species listed on part 1 (plants) of the third schedule of the European Communities (Bird and Natural Habitats) Regulations 2011 (SI No. 477 of 2011). The regulations prohibit the introduction and/or dispersal of these species, and if this is caused to occur, the party involved shall be guilty of committing an offence.

Rhododendron and Salmonberry was encountered on site and the extent of infestation on the site, and control measures for same are reported in the Invasive Alien Species Survey and Management Plan report for the site.

4.6 Identification of Natura 2000 Sites

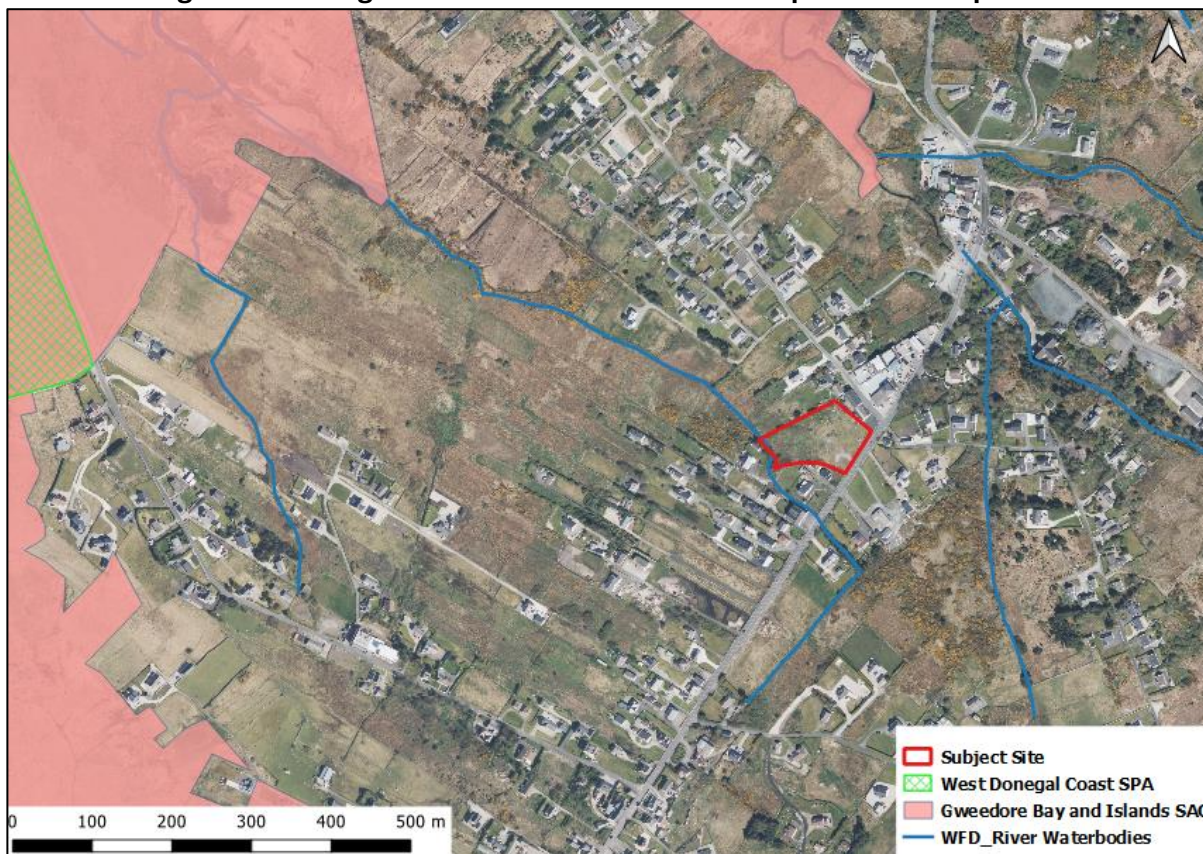
In terms of the identification of relevant Natura 2000 sites, the zone of impact (also known as the area of influence) is determined based on their potential connectivity (*source-pathway-receptor* model) to the proposed project in terms of, for example:

- Nature, scale, timing, and duration of works and possible impacts.
- Distance and nature of pathways (dilution and dispersion; intervening ‘buffer’ lands, roads etc.); and
- Sensitivity and location of ecological features.

The ‘zone of influence’ (Zoi) is essentially the effect area over which alterations may have potential ecological impact. The Zoi over which the proposed development may impact upon Natura 2000 Sites and their Qualifying Interests will vary for different ecological receptors, depending on the pathway for potential impacts, as well as the specific nature of the habitats/species (e.g., some species have ability to move/disperse, and some habitats have better ability than others to absorb impacts). Having considered the potential ecological impacts through source-receptor-pathway connectivity (e.g., hydrological link) and given the nature of the proposed project, the nearest Natura 200 sites are listed below.

The nearest Natura 2000 site is the Gweedore Bay and Islands SAC which lies 255m to the north of the site. There is a hydrological link from the site to the SAC of approximately 570m through a tributary of the Catheen River. The nearest SPA is West Donegal Coast SPA which is 845m west of the site.

Figure 4.2: Designated Sites Proximal To The Proposed Development



(Created using QGIS, Bing satellite imagery and datasets from NPWS)

Table 4.1: Natura 2000 Sites

Site Name	Site Code	Distance from Subject Site	Avenue of Connectivity to Subject Site
<i>Gweedore Bay and Islands SAC</i>	001141	255m north	Potential hydrological link to the SAC through surface water drainage. Hydrological link is approximately 570 m
<i>West Donegal Coast SPA</i>	004150	845m west	None

4.7 Protected Flora and Fauna

4.7.1 Plants

No rare or protected Flora was observed during the habitat survey.

4.7.2 Birds

Several common species were observed within the site. Any clearance of vegetation/scrub should be undertaken outside the bird breeding season.

4.7.3 Badger

Following site investigation within the footprint of the site there were no signs of Badger presence.

4.7.4 Bats

The site may contain some suitable roosting sites for bats within the trees near the western and southwestern boundaries of the site. These trees are outside the site boundaries.

4.7.5 Other Mammals

No evidence of other mammals was observed during the field survey.

4.7.6 Amphibians and Reptiles

No amphibians or reptiles were observed during the field survey.

4.8 Field Survey Limitations

Most of the site could be accessed freely. However, there were thickets of brier in the western corner of the site which were inaccessible.

5 CONSTRAINTS AND RECOMMENDATIONS

5.1 Key Constraints to Design

5.1.1 Designated Sites

The proposed development has a hydrological link of 570m from the site to the Gweedore Bay and Islands SAC. The site is approximately 845m distant from the nearest SPA (West Donegal Coast SPA)

5.1.2 Invasive Species

Rhododendron and Salmonberry were encountered in relatively small amounts on the site. The control plan outlined in the Invasive Alien Species Survey and Management Plan for the site should be implemented in full before any construction activity takes place.

5.2 Further Surveys Required

No further surveys are required for the application stage of this development:

6 CONCLUSION

This Preliminary Ecological Assessment Report outlines the findings of a preliminary environmental desk study and site walkover. Desk research and Field Surveys were carried out to identify ecological constraints to this projects design.

- No rare or protected flora was identified.
- Small amounts of the invasive species Rhododendron and Salmonberry were encountered on site. The control plan outlined in the Invasive Alien Species Survey and Management Plan for the site should be implemented in full before any construction activity takes place.
- There is a hydrological link of approximately 570m distance from the site to the Gweedore Bay and Islands SAC. The site is 845 m from the West Donegal Coast SPA.
- It is recommended to screen this site and proposal for social housing for Appropriate Assessment.

7 REFERENCES

- CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
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