



Preliminary Ecological Appraisal Report

Preliminary Ecological Appraisal Report
for social housing site in Dunaff, Co. Donegal.

Greentrack Environmental Consultants

August 2024

DOCUMENT DETAILS

Client: Donegal County Council

Project Title: Preliminary Ecological Appraisal Report

Project Number: 24.0707 C1

Document Title: Preliminary Ecological Appraisal Report
- Dunaff

Completion Date: 26/08/2024

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1 INTRODUCTION

Greentrack Consultants have been instructed by Donegal County Council to undertake a Preliminary Ecological Appraisal Report (PEAR) on a site in Dunaff under consideration by Donegal County Council for social housing. 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 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'Hara, 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 August 2024)
- NPWS Site Synopsis and Conservation Objectives, available at www.npws.ie (Accessed August 2024)
- Hydrological data from the EPA available from www.gis.epa.ie/GetData/Download (Accessed August 2024)
- The National Biodiversity Data Centre (NBDC) website was consulted with regard to species records and distribution (www.maps.biodiversityireland.ie) (Accessed August 2024)
- Flood information was obtained from www.floodinfo.ie (accessed August 2024).
- Geological & Hydrogeological information was sourced through the Geological Society of Ireland www.gsi.ie (Accessed August 2024)

2.4 Field Study

A multidisciplinary site walkover took place on 22nd August 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 Shannen McEwen, Ecologist with Greentrack. Shannen holds a B.Sc. (Hons) Environmental Science with a Diploma in Professional Practice from the University of Ulster. She has been involved in all aspects of Appropriate Assessment, Natura Impact Statement and Environmental Impact Assessment preparation since 2017. Shannen is an Associate Member of the Institution of Environmental Sciences.

3 DESCRIPTION OF THE PROJECT

3.1 Project Description

The proposal is for a housing project on a greenfield site in Dunaff in northwest Inishowen, Co. Donegal. The site is adjacent to the L-6071 local road, irregularly shaped and approximately 0.4 hectares in size. There are proposals to construct social housing dwellings as part of the development. No further details were available at the time of writing. The site outline is provided in Figure 3.1 below.

Figure 3.1: Site Outline

(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 local L-6071 road. Access to the site is directly off the L-6071. This site is currently used as an agricultural field and is bounded by agricultural land to the northwest, southwest and southeast. A farmyard is situated to the southwest of the site. There is a dwelling immediately to the northeast of the site.

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 belonging to the Tullagh Point Granite which is described as a coarse granodiorite to monzogranite.

4.2.2 Bedrock Aquifer

The GSI have mapped the underlying aquifer as a Poor Aquifer (PI) – Bedrock which is generally unproductive except for local zones.

4.2.3 Soils

The soils on site are classified as a mixture of poorly drained mineral soils and stoney mineral soils with good drainage often overlying bedrock. The subsoil is described as a granite till.

4.2.4 Karst Features

There are no Karst features anywhere within a 40 km radius of the subject site. The nearest Karst feature is a Wellglass Spring located in County Derry approximately 46 km to the southeast.

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

The nearest well is a Spring well in Ballyliffin approximately 6.4 km east of the subject site. Yield class is reported to be an intermediate spring with yields of 1,090 m³ per day recorded.

The nearest Source Protection Area is located 13.5 km to the east of the site at Carndonagh PWS.

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, fluvial and pluvial scenarios was engaged. Modelling included a 30% increase in rainfall and a sea level rise of 1,000 mm.

No part of the site or any of the surrounding area was shown 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 3.6 km to the east at Clonmany. The Clonmany Binnion recurring flood event is river sourced.

4.3.2 Hydrological setting

The site lies within the 40-Donagh-Moville Water Framework Directive (WFD) catchment, the Clonmany WFD sub catchment and the Clonmany river sub basin (EPA code: IE_NW_40C010300).

The site is slightly undulating but has an overall gentle slope from west to east. There are no drains or watercourses present on or immediately adjacent to the site.

Rainwater incident on site will either percolate to ground or flow by overland flow to the existing field drain network which discharges to the ocean at Rockstown Harbour via an unnamed watercourse.

The nearest connected Natura 2000 site is the North Inishowen Coast SAC located 300 m to the northeast of the site. The approximate hydrological distance from the site to the North Inishowen Coast SAC is c. 810 m through the field drain network and the unnamed watercourse.

Where the unnamed watercourse discharges to Rockstown Harbour is classified as a coastal waterbody. The WFD status of Rockstown Harbour as a coastal waterbody is assessed as 'high' by the EPA for the monitoring period 2016 – 2021. Rockstown Harbour is not designated as a shellfish producing area under the Irish Shellfish Regulations (S.I. 200/1994) update by the European Communities (Quality of Shellfish Waters) (Amendment) Regulations 2009.

The unnamed watercourse is part of the Clonmany river sub basin. The WFD status of the Clonmany River as river waterbody is assessed as 'good' by the EPA for the period 2016 - 2021. The WFD status of the underlying groundwater body (East Inishowen) is assessed by the EPA as 'good' for the period 2016 – 2021. The Clonmany River is not designated as a Salmonid water under SI No 293 of 1988 – EC (Quality of Salmonid waters) Regulations, 1988. The Clonmany River does not contain the annex 1 species, the freshwater pearl mussel (*Margaritifera margaritifera*). The site does not form part of any freshwater pearl mussel catchment area.

4.4 Habitats on Site

The site is predominantly improved agricultural grassland (GA1) with species such as bent grass (*Agrostis spp.*), Yorkshire fog (*Holcus lanatus*) and fescues (*Festuca spp.*) present in the grassland. The site has two stone walls (BL1) as boundary features along the roadside boundary of the site and the southeast boundary of the site. There is a line of predominantly Lodgepole pine (*Pinus contorta*) trees and willow (*Salix spp.*) immediately outside the northwest boundary of the site. There are no watercourses on or immediately adjacent to the site.

Photographs 4.1 & 4.2 give an overview of the site.

Photograph 4.1: Overview of site looking north from the centre of the site



Photograph 4.2: Overview of site looking east from the centre of the site.



4.5 Invasive Species

A walkover terrestrial invasive species survey of the subject site was carried out on 22nd August 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.

An area of Montbretia (*Crocsmia x crocosmiflora*) was encountered along the roadside (northwestern) boundary of the site. There were other stands of Montbretia noted adjacent to the site along the roadside and immediately adjacent to the southwest boundary of the site. The approximate position of the Montbretia on, and immediately surrounding, the site is shown in Figure 4.2 below. Photograph 4.3 shows the Montbretia in situ. The invasive species are discussed in more detail, including potential methods of control, in the Invasive Species Survey and Management Plan produced for the site.

Figure 4.2: Approximate position of Montbretia on and surrounding site.



(Created using QGIS & Bing satellite imagery)

Photograph 4.3: Montbretia along roadside boundary of 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’ (Zol) is essentially the effect area over which alterations may have potential ecological impact. The Zol 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.

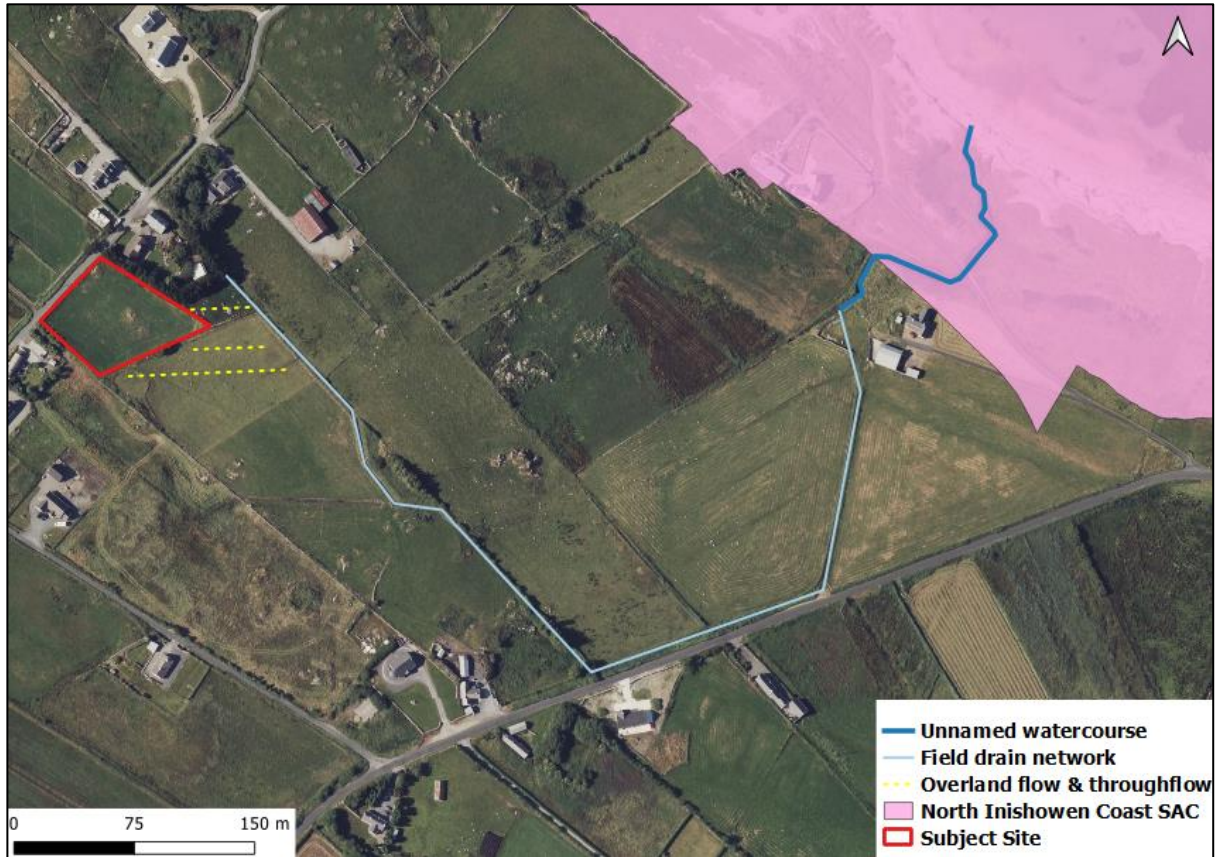
The nearest connected Natura 2000 site is the North Inishowen Coast SAC located 300 m to the northeast of the site. Rainwater incident on site will either percolate to ground or flow by overland flow to the existing field drain network which discharges to the ocean at Rockstown Bay via an unnamed watercourse.

The approximate hydrological distance from the site to the North Inishowen Coast SAC is c. 810 m through the field drain network and the unnamed watercourse.

The nearest SPA (Trawbreaga Bay SPA) is located c. 6.71 km to the northeast and is not hydrologically connected to the site.

The hydrological link from the site to the North Inishowen Coast SAC is illustrated in Figure 4.3 below.

Figure 4.3: Hydrological connection to North Inishowen Coast SAC



(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
North Inishowen Coast SAC	002012	300 m northeast	Hydrological link from site overland and throughflow to the field drain network and unnamed watercourse to SAC. Hydrological link is approximately 810 m.
Trawbreaga Bay SPA	004034	6.71 km northeast	No avenue of connectivity between the site and SPA

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/trees 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 Otter

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

4.7.5 Bats

The site did not contain any suitable roosting sites for bats. Bats may use the hedgerows and linear woodland features bounding the site for foraging.

4.7.6 Other Mammals

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

4.7.7 Amphibians and Reptiles

No amphibians or reptiles were observed during the field survey.

4.8 Field Survey Limitations

The site could be accessed freely.

5 CONSTRAINTS AND RECOMMENDATIONS

5.1 Key Constraints to Design

5.1.1 Designated Sites

The site is c. 300 m distant from the North Inishowen Coast SAC and c. 6.71 km distant from Trawbreaga Bay SPA. The proposed development has a hydrological link of c. 810 m from the site to the North Inishowen Coast SAC through the existing field drain network and an unnamed watercourse, and no avenue of connectivity to any SPA.

5.1.2 Invasive Species

Montbretia was encountered on site. An Invasive Species Survey and Management Plan has been carried out and the recommendations contained within should be fully implemented before the commencement of any works. Following invasive species control, the site should be regularly monitored for the presence of any invasive species and an appropriate control plan implemented if any encountered.

5.2 Further Surveys Required

None at this stage.

6 CONCLUSIONS

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.
- Montbretia was encountered on site. Control measures should be implemented as outlined in the Invasive Species Survey and Management Plan. Following control, the site should be regularly monitored for the presence of any invasive species and an appropriate control plan implemented if any encountered.
- The proposed development has a hydrological link of c. 810 m from the site to the North Inishowen Coast SAC. The site is 6.71 km distant from Trawbreaga Bay SPA. It is recommended to screen this site 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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