Initial Biodiversity Survey

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Cairns Hill, Sligo

Upper Offices, Ballisodare Centre,
Station Road,
Ballisodare,
Co Sligo,
F91 PE04.

Email: info@woodrow.ie
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Front cover photograph: Honeysuckle (*Lonicera periclymenum*) in bloom on Cairns Hill

AUTHORSHIP

This report has been written by Philip Doddy. Philip is an Ecologist at Woodrow Sustainable Solutions. He has completed a PhD in Aquatic Sciences, a BSc (Hons) in Freshwater & Marine Biology, and a diploma in Amenity Horticulture. He is an Associate member of the Chartered Institute of Ecology and Environmental Management (CIEEM). Philip carries out botanical monitoring, site surveys and habitat mapping, and compiles EcIAs, NISs, screening reports and vegetation monitoring reports. He has also carried out research on calcareous lakes and pools, microbial communities, and ecological succession.

All Woodrow staff are required to abide by a strict code of professional conduct in all aspects of their work.

Philip Doddy – Qualifications:

PhD – Aquatic Sciences, Galway-Mayo Institute of Technology, 2019.

BSc (Hons) – Freshwater & Marine Biology, Galway-Mayo Institute of Technology, 2013.

Diploma - Amenity Horticulture, Teagasc, National Botanic Gardens, 2001.

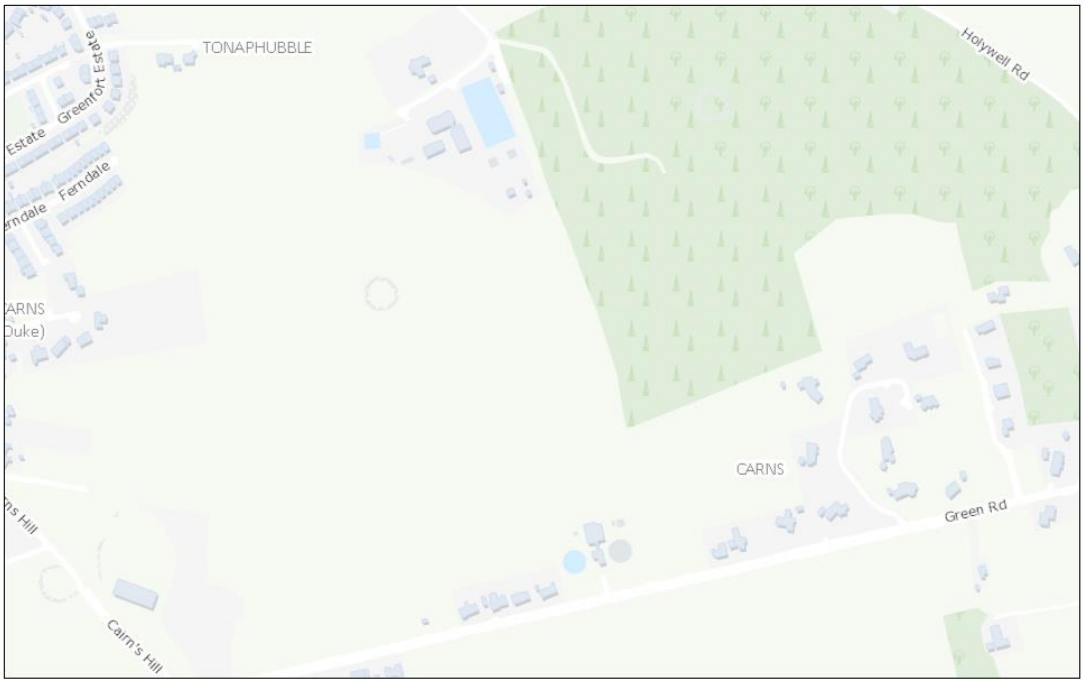
SCOPE & AIMS

This document reports on an initial biodiversity survey, carried out between May and October 2020. The aims of the survey were to identify the habitats present, and to compile initial observations of plant and animal species inhabiting the site. This survey also aimed to identify ways in which knowledge of the area's wildlife could be increased in future, including recommendations for any more extensive or specialised survey work which should be carried out in order to achieve this objective.

LOCATION

The study area is located on the outskirts of Sligo Town, a short distance east of the Carraroe Retail Park. Cairns Road runs to the west and southwest of the site, and the Green Road runs along the south edge. The large cairn at the centre of the study area is located at N 54.2534, W -8.4563, and the site is contained within the Irish National Grid 1 km squares G7034 and G7033. The general area is shown below in Figure 1.

Figure 1: The location of the study site at Cairns Hill, and surrounding area. The upper map shows the area in relation to the surrounding roads; the lower image shows an aerial view of the same area. Source: NBDC maps.



May 26, 2020

1:5,000
0 0.0425 0.085 0.17 mi
0 0.05 0.1 0.2 km

Source: USGS, NGA, NASA, CGIAR, GEBCO,N Robinson,NCEAS,NLS,OS,NMA,Geodatastyrelsen and the GIS User

Protected Areas in the Vicinity

Protected areas are those which are considered important to the conservation of wildlife and biodiversity, and which have been designated accordingly. They include Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Natural Heritage Areas (NHAs).

The study site at Cairns Hill is not within any protected area, but there are two such areas a short distance to the east, Lough Gill SAC and Lough Gill pNHA (proposed Natural Heritage Area). These are described briefly below.

Lough Gill Special Area of Conservation

Lough Gill SAC is about 500 metres to the east of the Cairns Hill study site. It is a large SAC, which includes Lough Gill and some of the rivers in the lake's catchment. The SAC also extends along the Garavogue River as far as Hyde Bridge, in the centre of Sligo Town.

The SAC contains several habitats and species of conservation interest, including Old Oak Woods, Alder & Ash Woods, White-clawed Crayfish, Lampreys, Otters and Salmon. Full information on the important species and habitats in this SAC, as well as the conservation objectives, can be found on the National Parks & Wildlife Service protected sites database[1].

Lough Gill Natural Heritage Area

Lough Gill pNHA includes Lough Gill and some surrounding areas, and comes within 780 metres of the Cairns Hill study site. NHAs are designated as being of significance for wildlife and habitats. Lough Gill and the surrounding area is a proposed NHA, awaiting formal designation, but is recognised as an area of importance which deserves special recognition and protection.

[1] Lough Gill SAC site details: https://www.npws.ie/protected-sites/sac/001976

Habitats at Cairns Hill	
A list of the habitats identified at Cairns Hill is given below. As this was a brief survey, this is not necessarily a complete list, but it is clear that the area contains an interesting mix of habitats, several of which are valuable to the local wildlife.	
Habitat Type	Description
Scrub	Scrub habitat is made up of bushes and low-growing trees, often with bramble thickets. Scrub can also contain clearings with non-woody plants. Scrub habitat is very common on Cairns Hill, with a lot of blackthorn, gorse and brambles.
Stone walls	Stone walls provide a valuable habitat for ferns, mosses, and a range of invertebrates. Several old walls of various heights are present on Cairns Hill.
Mixed deciduous woodland	The mixed woodland on Cairns Hill contains birch, rowan, ash, hawthorn, grey willow, hazel, holly, and sycamore, and blends in with the adjoining scrub in some areas.
Limestone pavement	Small patches of this rare habitat were noted on Cairns Hill, where outcrops of flattish limestone are present.
Species-rich grassland	Much of the grassland on the hill is quite species-rich, and contains several flowering plants which are valuable to pollinators.
Disused Quarry	An area of disused limestone quarry is present to the south-west of Cairns Hill. The exposed rocky walls provide a good habitat for several ferns, flowering plants and mosses.
Wet grassland	Some of the site, particularly to the north, appears quite peaty, and contains some areas of wet grassland. These contain a mixture of grasses, rushes, and plants such as docks, sorrel, and meadow buttercups.

Habitat Photographs

Plate 1: Scrub habitat

Plate 2: A stone wall with ivy, ferns and mosses

Plate 3: Mixed deciduous woodland

Plate 4: A patch of limestone pavement, with rain-filled solution hollows

Plate 5: An area of species-rich grassland on Cairns Hill

Plate 6: A vertical stone wall in the disused quarry

Plate 7: Wet grassland habitat

Plants recorded at Cairns Hill during this study	
Common Name	Scientific Name
Blackthorn	*Prunus spinosa*
Brambles	*Rubus fruticosus*
Gorse / Whins	*Ulex europaeus*
Yorkshire Fog (grass)	*Holcus lanatus*
Timothy Grass	*Phleum pratense*
Pignut	*Conopodium majus*
Germander Speedwell	*Veronica chamaedrys*
Nettle	*Urtica dioica*
Hawthorn	*Crataegus monogyna*
Meadow buttercup	*Ranunculus acris*
Ribwort Plantain	*Plantago lanceolata*
Ox-eye Daisy	*Leucanthemum vulgare*
Herb Robert	*Geranium robertianum*
Field Thistle	*Cirsium arvense*
Chickweed	*Stellaria media*
Ivy	*Hedera helix*
Soft Shield-Fern	*Polystichum setiferum*
Creeping Buttercup	*Ranunculus repens*
White Clover	*Trifolium repens*
Willowherb	*Epilobium hirsutum*

Meadowsweet	*Filipendula ulmaria*
Burnet Rose	*Rosa pimpinellifolia*
Bird's-foot trefoil	*Lotus corniculatus*
Common Rush	*Juncus effusus*
Sweet Vernal Grass	*Anthoxanthum odoratum*
Sorrel	*Rumex acetosa*
Broad Buckler Fern	*Dryopteris dilitata*
Scaly Male Fern	*Dryopteris affinis*
Honeysuckle	*Lonicera periclymenum*
Ash	*Fraxinus excelsior*
Lousewort	*Pedicularis sylvatica*
Eared Willow	*Salix aurita*
Vetch	*Vicia sepium*
Elder	*Sambucus nigra*
Tormentil	*Potentilla erecta*
Hazel	*Corylus avellana*
Cuckoo Flower	*Cardamine pratensis*
Knapweed	*Centaurea nigra*
Red Clover	*Trifolium pratense*
Yarrow	*Achillea millefolium*
Hawkweed	*Hieracium sp.*
Dock	*Rumex obtusifolius*
Shamrock	*Trifolium dubium*
Privet	*Ligustrum vulgare*
Holly	*Ilex aquifolium*
Heather	*Calluna vulgaris*
Sharp-Flowered Rush	*Juncus acutiflorus*
Quaking Grass	*Briza media*
Milkwort	*Polygala vulgaris*
Dandelion	*Taraxacum officinale*
Ragwort	*Senecio jacobaea*
Creeping Cotoneaster	*Cotoneaster horizontalis*
Hart’s Tongue Fern	*Asplenium scolopendrium*
Sycamore	*Acer pseudoplatanus*
Grey Willow	*Salix cinerea*

Sedge	*Carex* sp.
Hogweed	*Heracleum sphondylium*
Maidenhair Spleenwort	*Asplenium trichomanes*
Creeping Bent Grass	*Agrostis stolonifera*
Devil's Bit Scabious	*Succisa pratensis*
Hedge Bindweed	*Calystegia sepium*
Wall Rue	*Asplenium ruta-muraria*
Lady's Bedstraw	*Galium verum*
Little Shaggy-Moss	*Rhytidiadelphus loreus*
Rowan (Mountain Ash)	*Sorbus aucuparia*
Silverweed	*Potentilla anserina*
Bracken	*Pteridium aquilinum*
Wood Avens	*Geum urbanum*
Cow Parsley	*Anthriscus sylvestris*
Lesser Stitchwort	*Stellaria graminea*
Woodrush	*Luzula* sp.
Violet	*Viola* sp.
Tamarisk Moss	*Thuidium tamariscinum*

Badgers

Several signs of badgers were noted on Cairns Hill. There is at least one active badger sett, and snuffle holes and paths were found near this sett. Snuffle holes are small holes in the ground made by badgers as they root out worms or insects. The entrance to the active sett (**Plate 8**) was on the margin of a large area of scrub. The photograph shows that the badgers had taken out their bedding. Badgers often take bedding out to air it, or dry it in the sun.

Plate 8: Entrance to a badger sett on Cairns Hill

Plate 9: Snuffle holes near the entrance to the badger sett

Photographs

Plate 10: These tree branches provide a habitat for mosses and lichens

Plate 11: The devil's bit scabious is the food plant of the rare marsh fritillary butterfly

Plate 12: These blackberries and sloes provide food for local birds and mammals

Plate 13: Old stone walls are a good habitat for ferns and mosses

Plate 14: These burrows in a patch of bare earth are made by solitary mining bees

Recommendations for Future Surveys	
Survey Type	Description
Mammal Survey	Much of Cairns Hill is suitable for badgers. While one badger sett, along with snuffle holes and paths, was found during this initial survey, it is likely that other setts may also be present in an area. A mammal survey could give a broader picture of the badger population on Cairns Hill. Use of automatic trail cameras could also provide useful images for educating the public and developing enthusiasm for the local wildlife. NB: The locations of setts are generally confidential so exact locations are not necessarily published/provided to the public.
Bat Survey	The habitats on Cairns Hill, especially the scrub and woodland areas, are suitable for a range of bat species. A dedicated bat survey, using ultrasonic detectors, would be able to identify the levels of bat activity, where bats tend to forage at night, and the species present.
Marsh Fritillary Survey	Marsh fritillaries are rare and protected butterflies, whose larvae feed on the devil's bit scabious. As populations of this plant are present on Cairns Hill, it would be interesting to find out if the area is used as a breeding site by marsh fritillaries. These surveys are carried out in August or September.
Breeding Bird Survey	Cairns Hill has a lot of habitat which is suitable for breeding birds, especially the woodland and scrub areas. A spring survey of breeding birds would be a worthwhile way to find out which bird species are present.