NATIONAL TOURISM MONITORING PROGRAMME 2021-2025

ANNUAL RESULTS FOR 2021

CARLINGFORD

for: **Fáilte Ireland**

88 – 95 Amiens Street

Dublin 1

D01 WR86

by: **CAAS Ltd.**

1st Floor,

24-26 Ormond Quay Upper

Dublin 7

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	Author/Reviewer	Date
Prepared by	Andrew Torsney & Callum O'Regan	Various dates to 31 July 2022
Reviewed by	Conor Skehan & Maeve Walsh	24 October 2022
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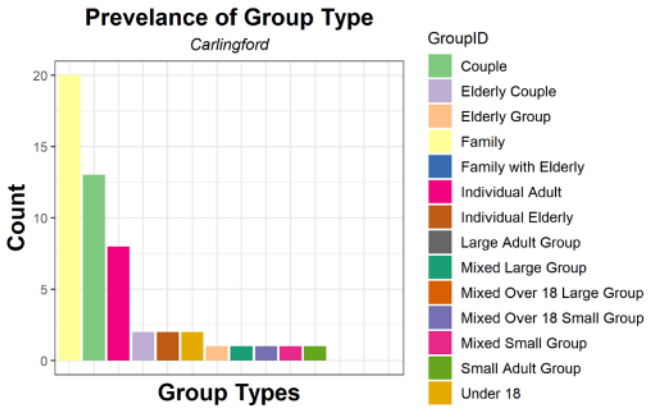
Carlingford – Interesting Finds

ECOLOGICAL HIGHLIGHTS

Otters are also known to frequent Carlingford lough, although none were spotted during the visit. Carlingford Lough and the surrounding coastal area, play host to multiple whale and dolphin [cetacean] species including bottle nosed dolphins and within the last few years, a bowhead whale.

VISITOR NUMBERS AND DWELL TIME

- 179 people visited the site over 8 hours
- Average dwell time of 50 minutes



KEY RECOMMENDATIONS

- Although there were no otter holts recorded on site – it is likely that this is a well defended territory.
- Urban landscaping could be employed to introduce pollination and invertebrate resources to the parklands and amenity grassland areas to promote biodiversity enhancements.
- Update the existing nature signage to give details on the broader ecological context beyond the bird species drawing found on site.
- Dumping and littering are the main impacts identified for the town. The litter management processes for the town should be reviewed with respect to the current demands on the existing bins.

VISITOR INTERACTION & MANAGEMENT

- Visitor interactions on site well controlled with strong management practices in place.
- Urban aspect of Carlingford means there were few high impact activities were undertaken on site.
- Given the urban aspect of the area, the most common impact observed was littering.
- Most of the visitors to the site stayed for at least 50 minutes – given the nature of the site being an urban area with a pier and a beach.

Highlights:

- Strong wintering bird population
- Strong habitat for local marine wildlife
- Long site dwell time of at least 50 minutes
- Site signage is limited – missed opportunity for wildlife

1 Carlingford

1.1 Purpose & Outputs of the Programme

Building on the success of the Wild Atlantic Way (WAW) environmental monitoring programme which ran from 2015-2019 – Fáilte Ireland has decided to expand the programme to a national level. The programme will monitor 19 individual sites located in all of Fáilte Irelands regional areas; The Wild Atlantic Way, Irelands Hidden Heartlands, Irelands Ancient East and Dublin. The programme will run for 5 years from 2021-2025.

The sites that are included in the programme vary in type from inland forest parks, to coastal sites, to privately owned attractions and diverse urban locations - can be seen below.

The purpose of the programme is as follows:

- To gain more insight from an environmental perspective as to what is happening at a variety of sites where we encourage visitors to frequent,
- To gather information (visitor behaviour, movement, path and trail conditions, surveys for birds, flora etc) for each site over the course of 5 years,
- To understand if there are observable trends and/or observable variations amongst site types over a 5-year period,
- To note good & bad practice at sites in order to;

- Make recommendations where appropriate for site management which is intended will have sustainable benefits for the site, the visitor and the natural environment.

The Wild Atlantic Way Environmental Monitoring Programme allowed us to monitor the behaviour & movement of over 26,000 visitors, identify where there were stresses on the environment or potential future risks as well as good and bad practice.

This culminated in our ability to make useful recommendations to site owners and managers and ultimately to development a practical set of Guidelines for Visitor management (from Planning thorough to Site Operation).

It is hoped that we can build on the learnings of this previous programme and by engaging with site managers, to knowledge share, can enhance the information that we gather for each site chosen nationally for this new programme.

The key areas of focus within the data being gathered is to answer the following questions:

- How do the learning outcomes from the WAW monitoring compare when using repeat measures at fixed locations over a long period? Hence, what are the predictors of impact occurrence and severity?
- Following on from the WAW monitoring data – with the refined methods we aim to understand what activities cause which impact; and what are the factors which influence these activity choices in visitors?
- Understanding visitor movement patterns with respect to ranging behaviours – i.e., is there a distance threshold where impacts are less severe or negligible?
- Undertake pathway condition assessments to understand the relative sensitivities or tolerances of path types to visitor movements – taking note of habitat type and visitor numbers/load capacity.

These questions will be answered upon completion of the full suite of surveys and data collected annually over the course of the monitoring programme. However, each year will have annual interim reports to enable emerging findings and management recommendation to be identified and shared with the relevant stakeholders to support progressive management practices.

1.2 Methods & Surveys

The following surveys were undertaken at Carlingford:

1.2.1 Visitor Characterisation Survey

Visitor characterisation surveys were undertaken at each of the monitoring sites during the weekend period between June-August. The survey at Carlingford was undertaken on the 23rd of July 2021, with max temperatures reaching approximately 25.1° C, no rainfall on the day[1]. These surveys followed an 8-hour time period recording samples of visitor behaviour of an many visitors on site as possible. Visitor movement patterns, demographic data and activities undertaken were recorded for all sampled visitors. Where activities had associated impacts, these were also recorded and the relevant severity was recorded using the same coding system as with the WAW monitoring (see Appendix I for details). It is important to note that the visitor characterisation surveys are indiscriminate between visitors and local amenity use.

1.2.2 Ecological & Path Assessments

In addition to the visitor movement and behavioural records an ecological assessment and path network assessment was undertaken at each site. This consisted of mapping all tracks and trails – with records of hazards, notable damage etc. In addition to this, all habitats were mapped according to the Fossitt Habitat coding system while information on bird populations was gathered from National Biodiversity Centre Data.

[1] Weather data gathered from: https://www.met.ie/climate/available-data/historical-data

1.2.3 Other Surveys

Additional sample surveys were undertaken at Carlingford to identify the species presence of wintering birds. This information can inform potential management actions related to amenity services such as lighting which could conflict with sensitive species on site.

1.3 Site Description of Carlingford

Carlingford is a coastal town of medieval origins in County Louth and is conveniently halfway between the cities of Belfast and Dublin. Carlingford is located close to Slieve Foy and is on Carlingford Lough, which offer a range of recreational activities to locals and visitors alike. Carlingford Lough SPA and Carlingford Shore SAC are located directly next to the town of Carlingford and has coastal habitats such as mixed substrata shores and shingle and gravel shores. The harbour and adjoining marine waters are much used for adventure water sports.

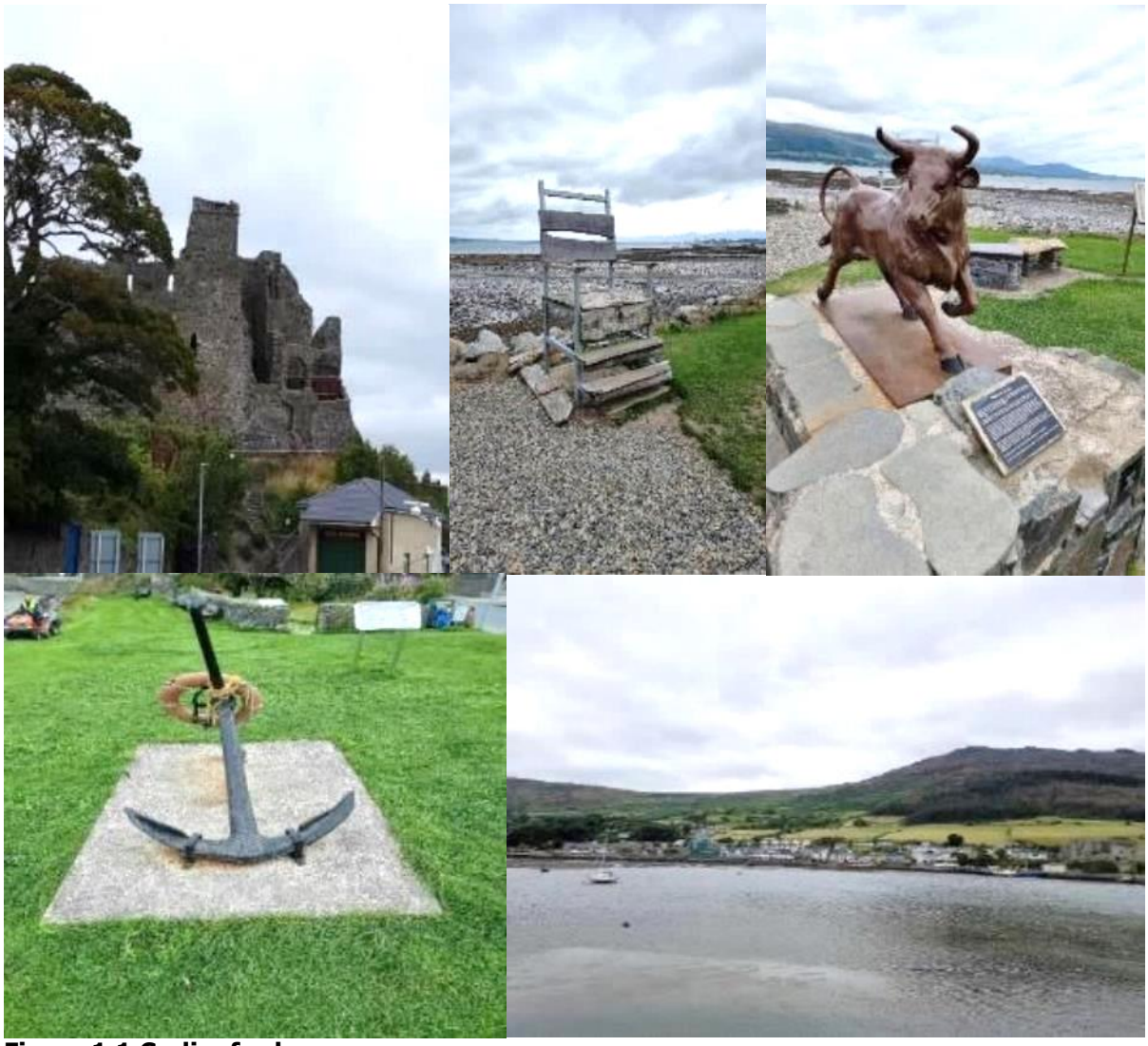


Figure 1.1 Carlingford

Carlingford Shore SAC

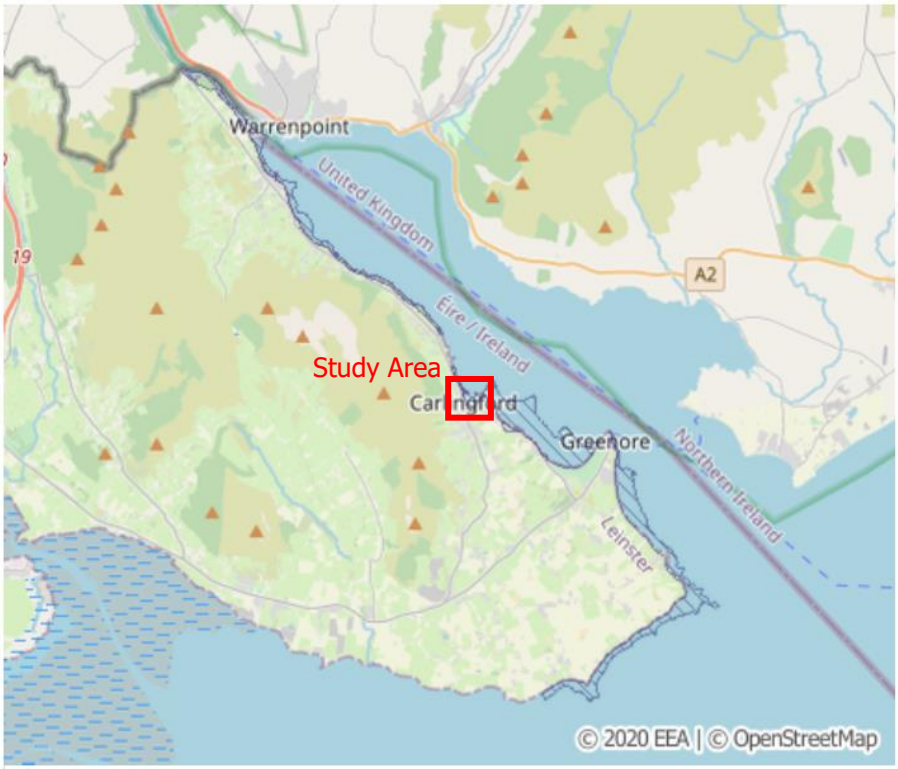


Figure 1.2 Study Area within Carlingford SAC

1.4 Pathways and Features Condition Results

1.4.1 Pathway Condition

All of the pathways are along roads or hard surfaced piers. There are no notable damaged areas. Water access is mostly via concrete slipway structures.

Figure 1.3 Pathways identified at Carlingford

Figure 1.4 Pathways and water access at Carlingford

1.4.2 Features Condition

Carlingford contains a number of informational signs related to both the historical and the natural aspects of the area (Figure 1.6). Along with these signs there are multiple attractions and monuments within Carlingford such as a fairy trail, a statue of the brown bull of Cooley, the giant's chair, and the ever-present Carlingford castle (Figure 1.6). Along with these, there are also other amenities relating to tourism and leisure with tennis courts, an adventure centre and a visitor office.

Figure 1.5 Features recorded at Carlingford

Figure 1.6 Wildlife Sign at Carlingford and Carlingford castle

1.4.3 Hazards

No hazards of any significance were reported in Carlingford.

1.5 Visitor Characterisation Survey

The visitor monitoring surveys resulted in a total of 179 visitors (which represent 52 group observations). The site is most popular amongst the Family group with the dominant mode of transport being car. The average dwell time for the site was 50 minutes; with the following activities undertaken during the survey (listed in order of occurrence rate):

Activity Type
Picnicking
Dog walking (on lead)
Photographing
Sitting
Swimming
Cycling Swimming and Drinking cans
Kayaking
SUP Boarding
Tennis
Coffee
Cycling
Dog walking (off lead)
Fishing
Flying drone
Hiking
Jogging
Kayaking
Skateboarding

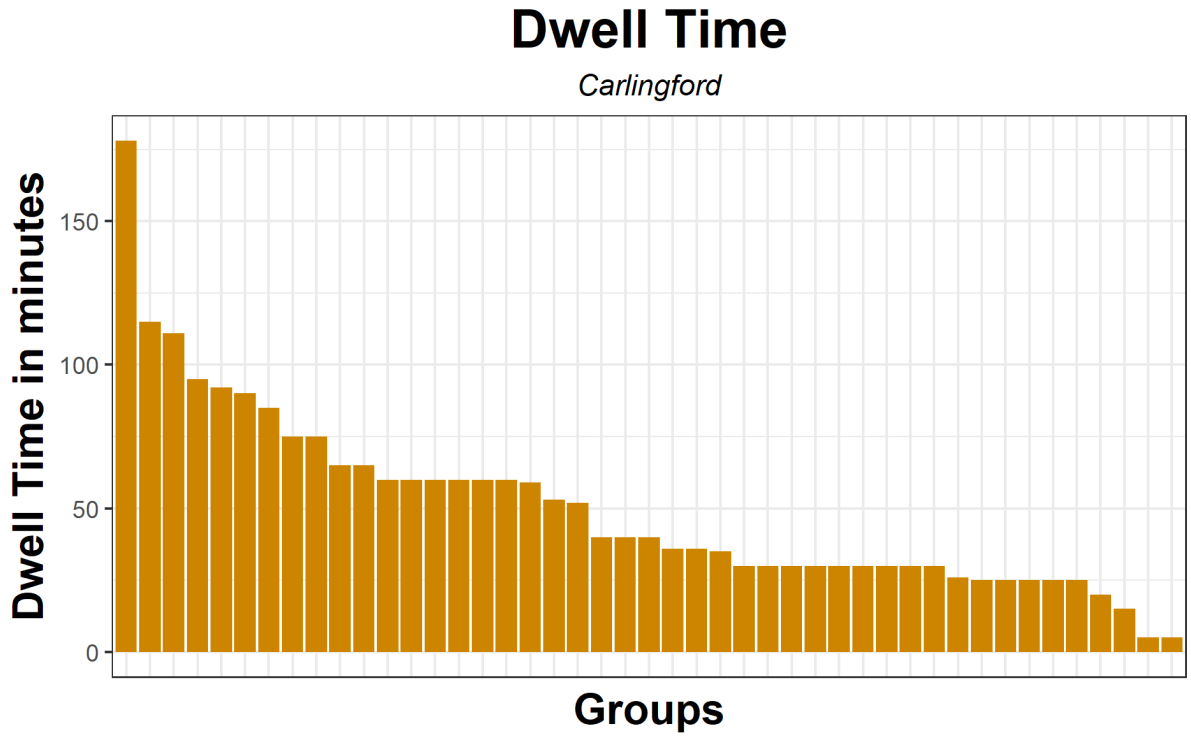


Figure 1.7 Duration of Time Spent at Carlingford

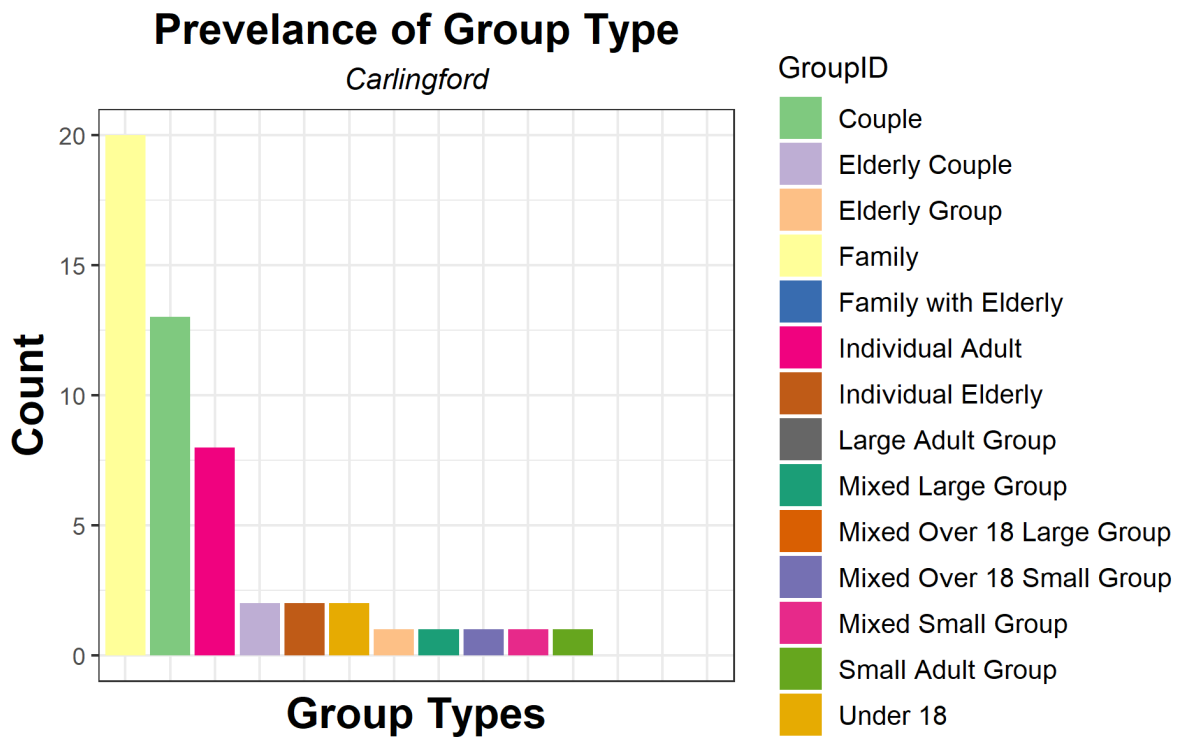


Figure 1.8 Groups of visitors that visited Carlingford

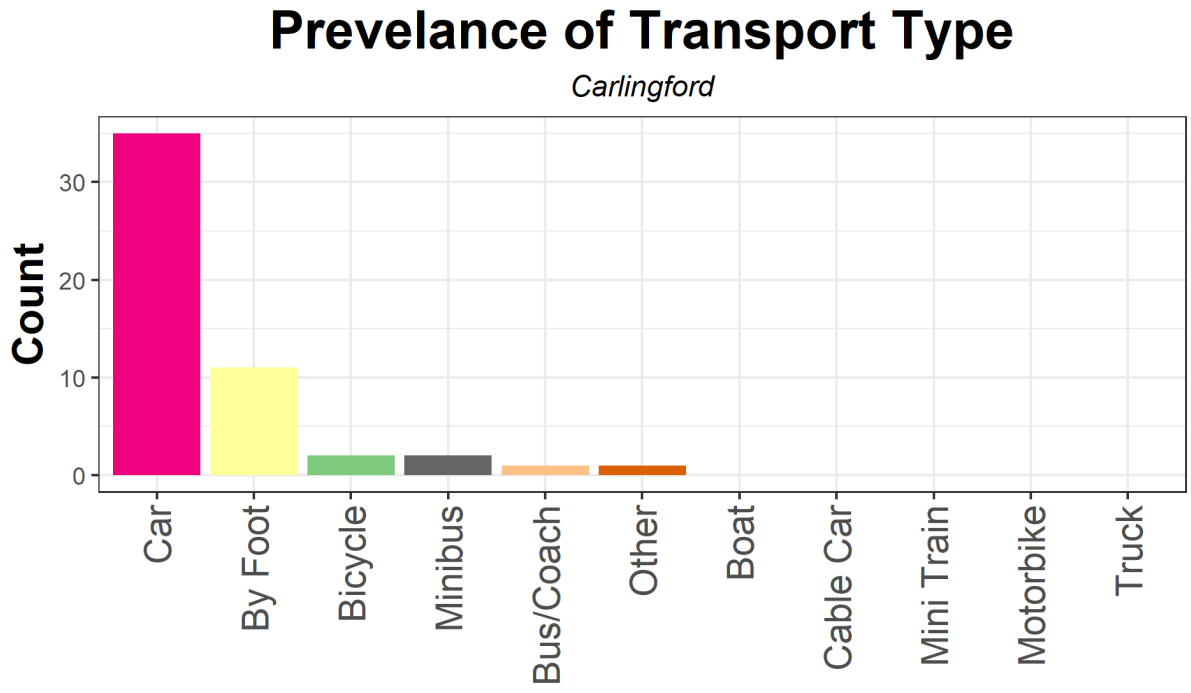


Figure 1.9 Mode of transport used to visit Carlingford

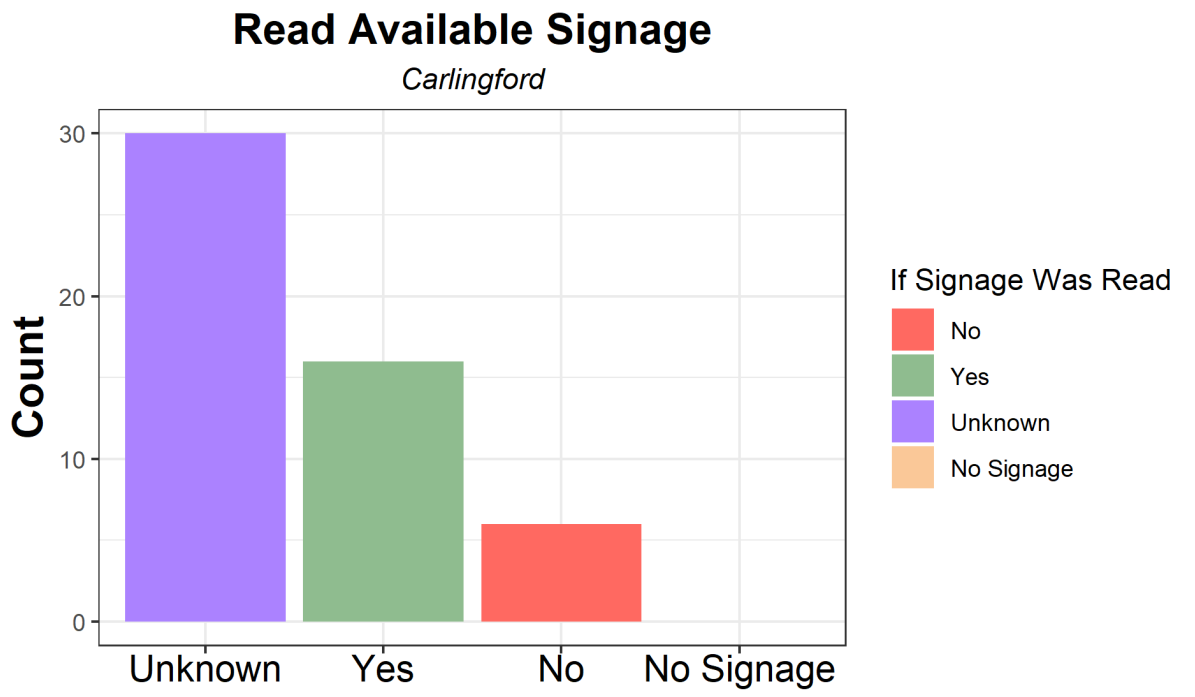


Figure 1.10 Use of Interpretive Material at Carlingford

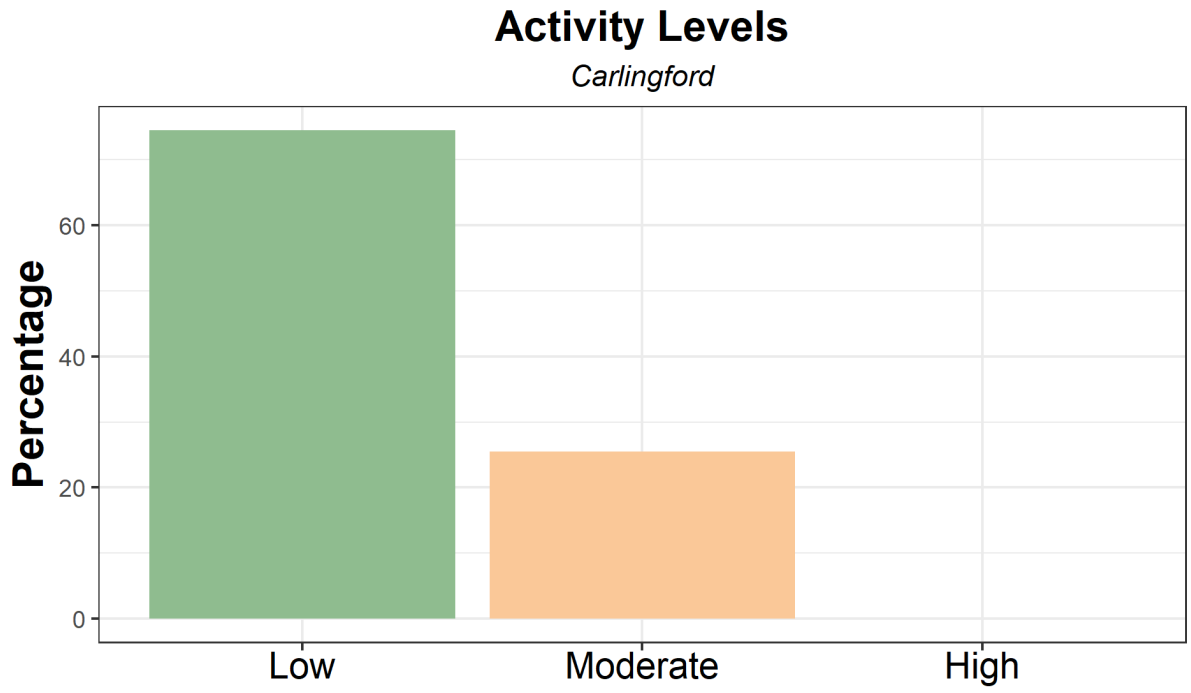


Figure 1.11 Categories of Activity Levels Observed at Carlingford

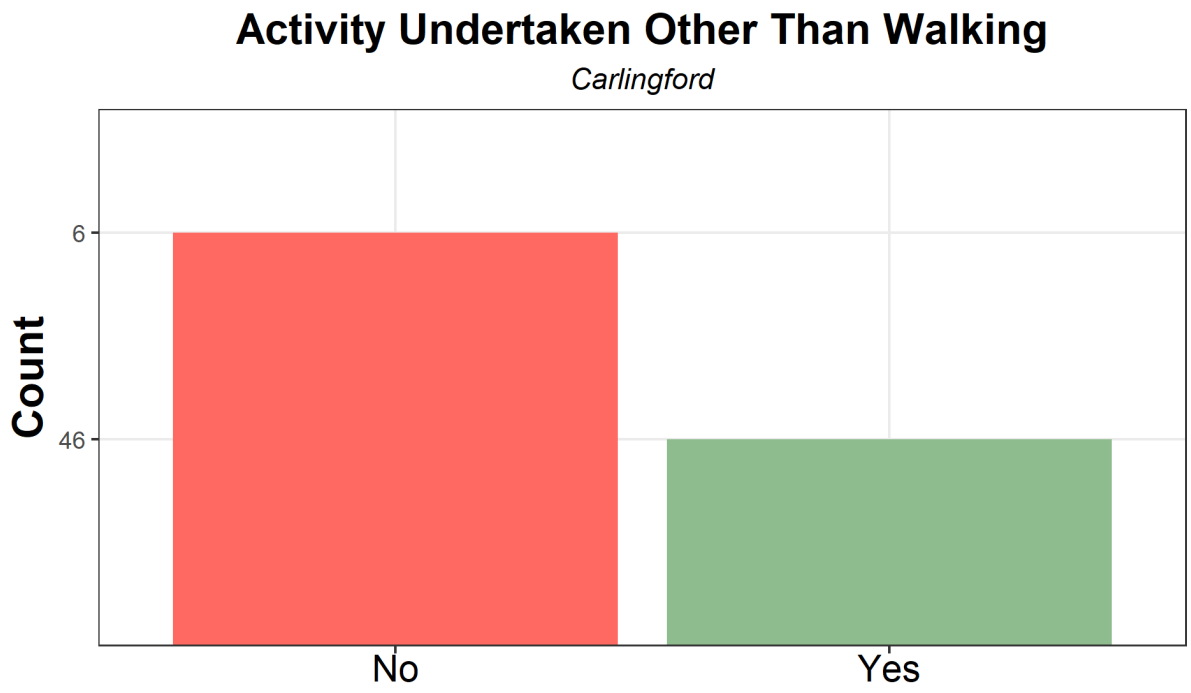


Figure 1.12 Activities undertaken other than walking

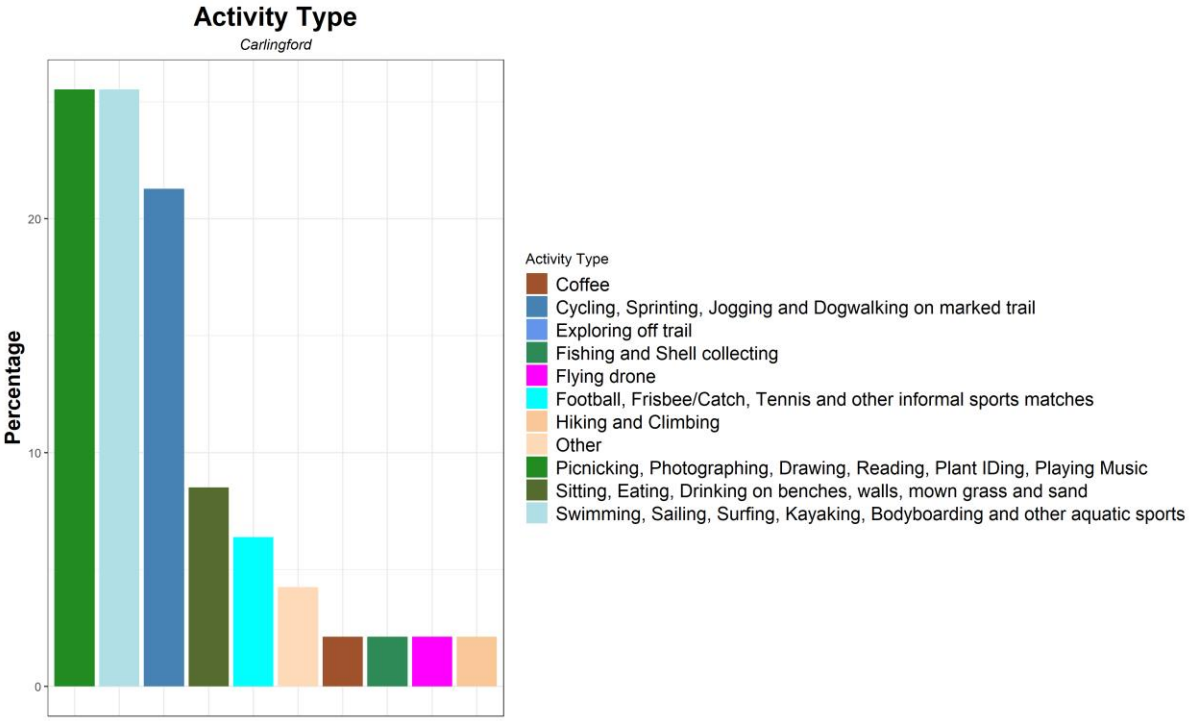


Figure 1.13 Range of Visitor Activities Observed at Carlingford

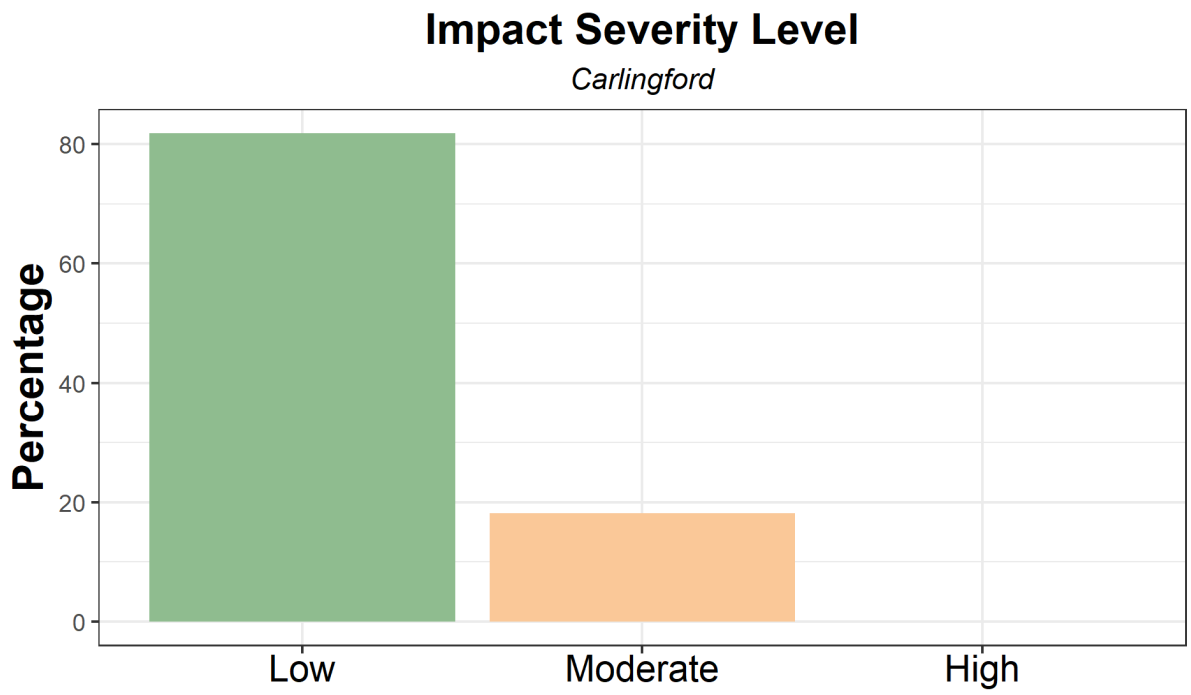


Figure 1.14 Categories of Environmental Impact Levels Observed at Carlingford as a result of Visitor Activities

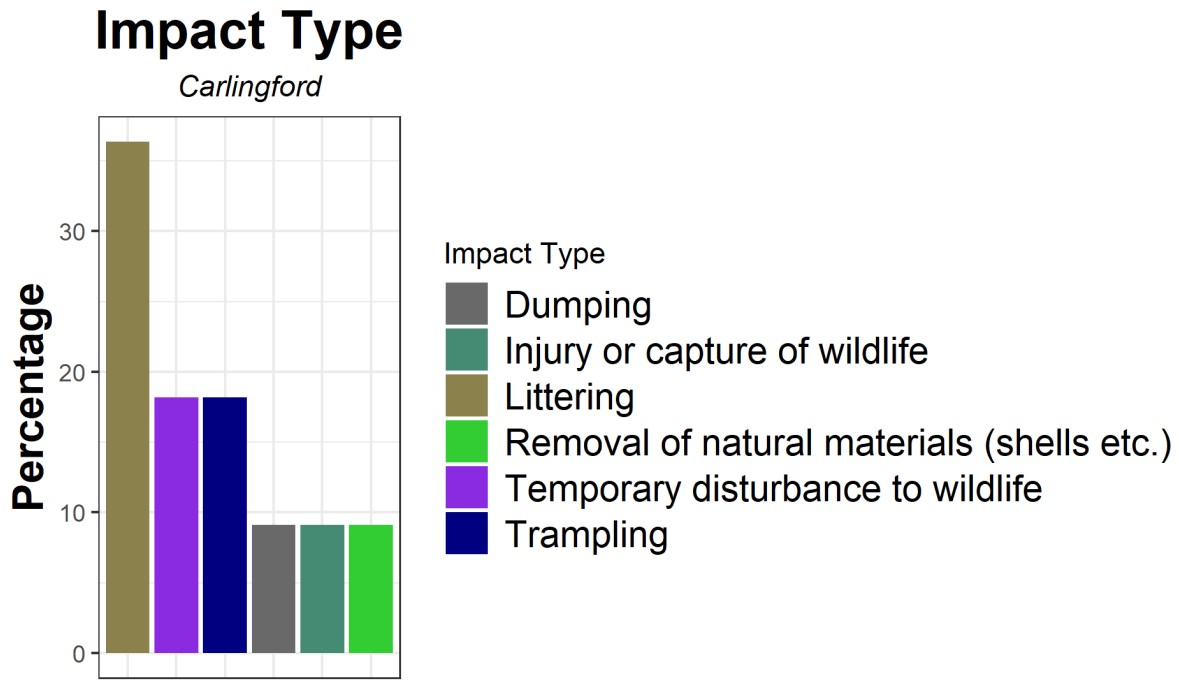


Figure 1.15 Range of Environmental Impacts Observed at Carlingford

Figure 1.16 Visitor movement patterns at Carlingford

Of the 52 groups recorded on site 88% of them undertook activities other than walking. These activities (identified above) resulted in 11 impacts being observed on site during the survey. Thus, 23% of activities on site resulted in impacts on the environment. The impact severity levels varied with 82% of the impacts being low, 18% of impacts being moderate, and 0% of impacts being high severity. The impacts identified for the site were:

Impact Type	Count
Dumping	1
Injury or capture of wildlife	1
Littering	4
Removal of natural materials (shells etc.)	1
Temporary disturbance to wildlife	2
Trampling	2

1.6 Ecological Monitoring Results

1.6.1 Ecological Constraints

The species within Carlingford are sensitive to pollution, disturbance effects and invasive species. While habitats are sensitive to land management changes, anthropogenic disturbance, overgrazing, pollution and hydrological changes.

Table 1.1 Designated sites within 2km of Carlingford and relevant ecological receptors

Site Code	Site Name	Distance (km)	Site Type	Qualifying Feature
[000452]	Carlingford Lough pNHA	0.01	pNHA	
[002306]	Carlingford Shore SAC	0.01	SAC	Perennial vegetation of stony banks [1220], Annual vegetation of drift lines [1210]

Site Code	Site Name	Distance (km)	Site Type	Qualifying Feature
[004078]	Carlingford Lough SPA	0.33	SPA	Wetland and Waterbirds [A999], Light-bellied Brent Goose *(Branta bernicla hrota)* [A046]
[000453]	Carlingford Mountain pNHA	0.86	pNHA	
[000453]	Carlingford Mountain SAC	0.86	SAC	Transition mires and quaking bogs [7140], Species-rich Nardus grasslands, on siliceous substrates in mountain areas - and submountain areas in Continental Europe [6230], Siliceous scree of the montane to snow levels *(Androsacetalia alpinae* and *Galeopsietalia ladani)* [8110], Alpine and Boreal heaths [4060], Northern Atlantic wet heaths with *Erica tetralix* [4010], Blanket bogs * if active bog [7130], European dry heaths [4030], Calcareous rocky slopes with chasmophytic vegetation [8210], Alkaline fens [7230]

1.6.2 Habitat Descriptions

As Carlingford is an urban area, a lot of the habitat in the area is buildings and artificial surfaces (Fossitt Code BL3) with patches of amenity grassland (Fossitt Code GA2). As Carlingford lough is situated in the area, the shore of Carlingford is made up of shore habitats like single and gravel shores (Fossitt Code LS1) and mixed substrata shores (Fossitt Code LR4), which makes up the majority of the shoreline habitat (Figure 1.17).

Visitor movement patterns were restricted to hard infrastructure areas around the town and its marine edge The harbour itself had vessel movement within and, birds were observed using the harbour for foraging.

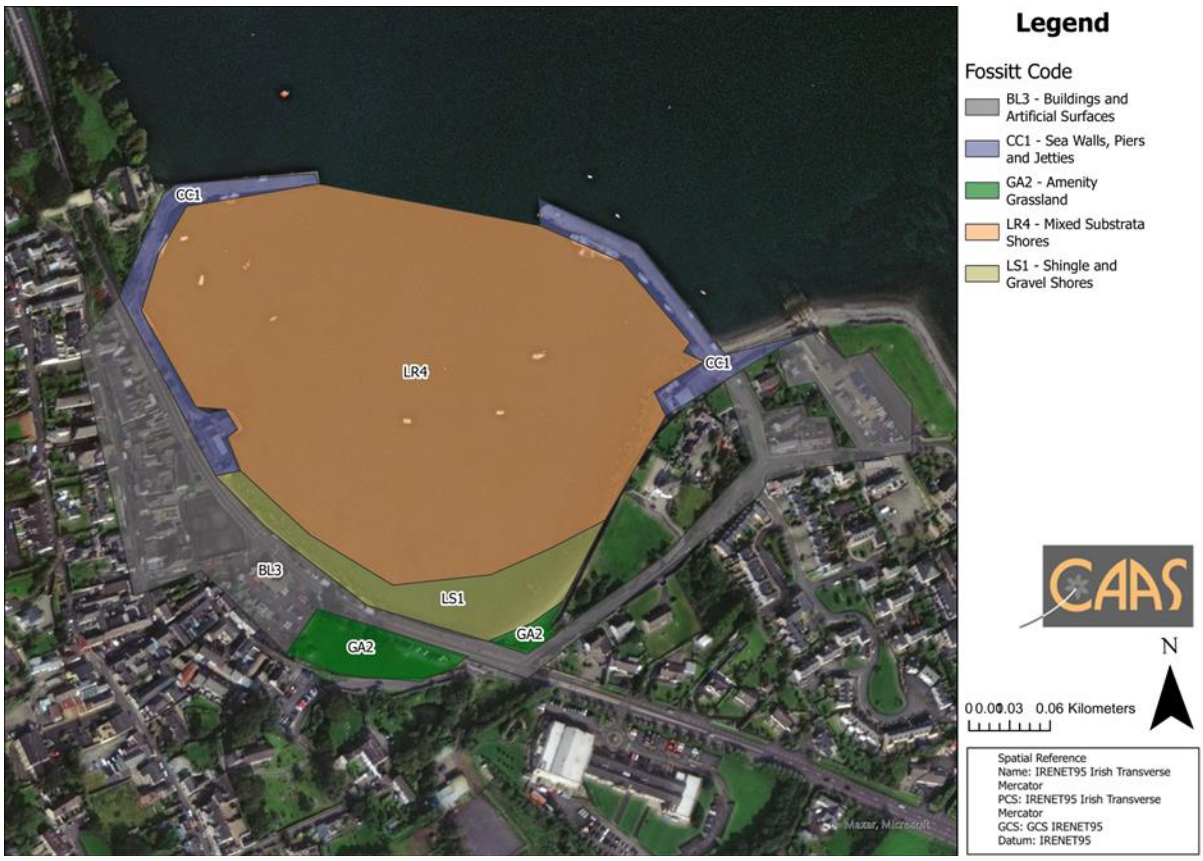


Figure 1.17 Habitats present at Carlingford

1.6.3 Condition Assessment

There are a range of habitats present on site, the assessment of habitat condition identified that the

overall habitat quality[2] following the assessment scale was "1" which means the majority of the habitats have no evidence of any negative impact on the habitats or other ecological features; however, this is largely due to the fact the site is an urban environment with 'Buildings and Artificial Surfaces' being the dominant habitat type with some amenity grassland and parkland areas throughout. There were 0 recorded incidents of damage to habitats occurring off the marked paths on site.

1.6.4 Wintering Bird Survey

There was a nationally important flock size (greater than 60 individuals) of oyster catchers observed on site. Carlingford lough SPA is only designated for Light bellied brent geese which were not seen on site at the time of surveying – given the urban nature of the site it is not likely that they will use the site. Nonetheless there is a lot of sea bird activity at the site.

Table 4.2 Results of the wintering bird survey conducted at Carlingford

Common name	Scientific name	Record count
Black headed gul	*Larus ridibundus*	24
Cormorant	*Phalacrocorax carbo*	2
Curlew	*Numenius arquata*	6
Great crested grebe	*Podiceps cristatus*	18
Herring gul	*Larus argentatus*	6
Oyster catcher	*Haematopus ostralegus*	63
Redshank	*Tringa totanus*	4
Shag	*Phalacrocorax aristotelis*	2
Turnstone	*Arenaria interpres*	1

Table 1.2 List of wintering birds that have been recorded at NBDC Hectad J11

Taxonomic group	Common name	Scientific name	Record count
Bird	Bar-tailed Godwit	*Limosa lapponica*	3
Bird	Black Brant	*Branta bernicla subsp. nigricans*	6
Bird	Black Guillemot	*Cepphus grylle*	10
Bird	Black-headed Gull	*Larus ridibundus*	21
Bird	Black-legged Kittiwake	*Rissa tridactyla*	1
Bird	Black-tailed Godwit	*Limosa limosa*	5
Bird	Branta bernicla subsp. hrota	*Branta bernicla subsp. hrota*	6
Bird	Brent Goose	*Branta bernicla*	12
Bird	Common Goldeneye	*Bucephala clangula*	5
Bird	Common Coot	*Fulica atra*	1
Bird	Common Greenshank	*Tringa nebularia*	5
Bird	Common Guillemot	*Uria aalge*	3
Bird	Common Kingfisher	*Alcedo atthis*	4
Bird	Common Moorhen	*Gallinula chloropus*	4
Bird	Common Pochard	*Aythya ferina*	1
Bird	Common Redshank	*Tringa totanus*	15
Bird	Common Shelduck	*Tadorna tadorna*	15
Bird	Common Snipe	*Gallinago gallinago*	8
Bird	Common Tern	*Sterna hirundo*	2
Bird	Dunlin	*Calidris alpina*	8
Bird	Eurasian Curlew	*Numenius arquata*	21
Bird	Eurasian Oystercatcher	*Haematopus ostralegus*	17
Bird	Eurasian Teal	*Anas crecca*	7
Bird	Eurasian Wigeon	*Anas penelope*	5
Bird	Eurasian Woodcock	*Scolopax rusticola*	2
Bird	European Golden Plover	*Pluvialis apricaria*	4
Bird	European Shag	*Phalacrocorax aristotelis*	3
Bird	Great Black-backed Gull	*Larus marinus*	9
Bird	Great Cormorant	*Phalacrocorax carbo*	18
Bird	Great Crested Grebe	*Podiceps cristatus*	10

[2] This value was calculated using the methods set out in Appendix II

Taxonomic group	Common name	Scientific name	Record count
Bird	Great Northern Diver	*Gavia immer*	2
Bird	Greater Scaup	*Aythya marila*	7
Bird	Grey Heron	*Ardea cinerea*	19
Bird	Grey Plover	*Pluvialis squatarola*	1
Bird	Herring Gull	*Larus argentatus*	14
Bird	Iceland Gull	*Larus glaucoides*	1
Bird	Jack Snipe	*Lymnocryptes minimus*	1
Bird	Lesser Black-backed Gull	*Larus fuscus*	1
Bird	Little Egret	*Egretta garzetta*	8
Bird	Little Grebe	*Tachybaptus ruficollis*	7
Bird	Long-tailed Duck	*Clangula hyemalis*	3
Bird	Mallard	*Anas platyrhynchos*	11
Bird	Mew Gull	*Larus canus*	16
Bird	Mute Swan	*Cygnus olor*	2
Bird	Northern Fulmar	*Fulmarus glacialis*	4
Bird	Northern Lapwing	*Vanellus vanellus*	9
Bird	Razorbill	*Alca torda*	3
Bird	Red Knot	*Calidris canutus*	3
Bird	Red-breasted Merganser	*Mergus serrator*	13
Bird	Red-necked Grebe	*Podiceps grisegena*	2
Bird	Red-throated Diver	*Gavia stellata*	2
Bird	Ringed Plover	*Charadrius hiaticula*	7
Bird	Ruddy Turnstone	*Arenaria interpres*	11
Bird	Slavonian Grebe	*Podiceps auritus*	1
Bird	Surf Scoter	*Melanitta perspicillata*	2
Bird	Tufted Duck	*Aythya fuligula*	1
Bird	Water Rail	*Rallus aquaticus*	1
Bird	White Wagtail	*Motacilla alba*	16
Bird	White-throated Dipper	*Cinclus cinclus*	10
Bird	Whooper Swan	*Cygnus cygnus*	3

1.7 Recommendations

Dumping and littering are the main impacts identified for the town. The litter management processes for the town should be reviewed with respect to the current demands on the existing bins.

Although there were no otter holts recorded on site – it is likely that this is a well defended territory.

Sea fronting urban landscaping could be employed to introduce pollination and invertebrate resources to the parklands and amenity grassland areas to promote biodiversity enhancements.

Update the existing nature signage to give details on the broader ecological context beyond the bird species drawing found on site.

Appendix I

Activities		
Category 1 Low Level		
Walking, running or cycling on paths, marked trails or hard surfaces		LA 1
Walking, running, cycling or playing in mown grass, managed grassland or level sand		LA 2
Sitting on benches, walls, mown grass, sand		LA 3
Swimming, sailing, surfing, kayaking in water		LA 4
Resting, reading, looking, picnicking, sightseeing, painting, photographing		LA 5
Vehicular movement on roads and parking areas		LA 6
Watching nature in hedges, woods, streams, pools and intertidal areas		LA 7
Category 2 Medium Level		
Powered movement through water		MA 1
Any movement leaving an existing trail or marked path		MA 2
Any movement leaving a trail through leafy vegetation		MA 3
Any movement leaving a trail through woody vegetation		MA 4
Climbing on walls, loose stones, sand, soil etc.		MA 5
Fishing		MA 6
Category 3 High Level		
Walking through wet/muddy soil		HA 1
Scrambling on steep or loose slopes		HA 2
Off road vehicular movement		HA 3
Disturbance of wildlife		HA 4
Deliberate building or moving or knocking site materials - parts of monuments, walls, stones, sand etc.		HA 5
Picking herbaceous vegetation		HA 6

Appendix I Activity and impact code index used for recording visitor behaviours on site

Category 1 Low Impact		
No identifiable effect		LIE 1
Desire lines or trails visible on grass and leafy vegetation		LIE 2
Temporary disturbance (including chasing and feeding) of insects, fish, amphibian, reptiles, insects, birds and mammals		LIE 3
Temporary change of character - due to the appearance or nature of activities (noise, crowds, etc.)		LIE 4
General/light littering		LIE 5
Category 2 Medium Impact		
Desire lines or tracks visible outside of existing trail or marked path		MIE 1
Trampling of herbaceous vegetation		MIE 2
Damage to woody vegetation		MIE 3
Incidentally moving or knocking site materials - parts of monuments, walls, stones, sand, rooted vegetation, flora, fauna etc.		MIE 4
Addition/alteration of site features, transient emissions, noise		MIE 5
Transient disturbance, emissions, noise		MIE 6
Disturbance of wildlife		MIE 7
Category 3 Severe Impact		
Direct interference with site material - parts of monuments, walls, stones, sand, rooted vegetation, flora, fauna etc.		SIE 1
Removal of material - parts of monuments, walls, stones, sand, rooted vegetation, flora, fauna etc.		SIE 2
Vandalism or graffiti		SIE 3
Destruction of structures, vegetation or fauna		SIE 4
Heavy littering or dumping quantities of waste		SIE 5
Burning materials or lighting a fire		SIE 6
Injuring, killing or taking wildlife		SIE 7

Appendix II

Habitat Condition Assessment Methodology

A rating scale has been designed for this monitoring programme as a standardised, repeatable measurement for assessing habitat condition across all sites[3]. For the purposes of this monitoring programme, habitat condition is assessed at every site by the surveyor examining four core criteria:

1. The extent to which habitat degradation (due to human activity), if any, is observed;
2. If habitat degradation is observed, the degree to which the impact is localised or widespread;
3. The potential ability for the habitat to recover (related to scale of degradation); and,
4. The requirement for intervention (related to the degree of the previous 3 elements).

For these assessments the term 'degradation' is taken to mean any change that reduces the long-term viability habitats and its qualifying interests [flora and fauna]. Degradation can include readily visible evidence of factors such as surface erosion or compaction, vegetation loss, crowd disturbance [noise], disturbance by pets, littering, burning or pollution.

Based on these four criteria, each site is walked along transects established by the principal pathways that are used for visitor access and movement through each site. At 100 metres intervals along the selected pathways, an assessment of habitat condition is made, using an established rating scale of 1 to 5; 1 being no impact and 5 being high impact. Each rating is then translated into a condition assessment, as displayed in Table II - 1 below.

These ratings are gathered for each site, and are then grouped; from which the mode is taken (i.e., the rating that occurs most frequently. This then recorded and reported as the resultant overall rating of the assessed habitat condition assessment for each site.

Table II-1 Habitat rating scale and condition assessment

Scale	Condition
1	No evidence of any habitat degradation observed.
2	Localised habitat degradation, but slight and capable of rapid recovery.
3	Widespread habitat degradation, but slight and capable of rapid recovery.
4	Localised habitat degradation, requiring intervention to allow full recovery.
5	Widespread habitat degradation, requiring intervention to allow full recovery.

[3] Note: Where possible, the same surveyor is used across multiple sites – but in some instances, different surveyors survey different sites. This can lead to a human variation in the assigning of the rating scale for impact. However, there will be sufficient repetition of the data through the several years of the monitoring programme to account for any variations in human interpretation on this scale.