NATIONAL TOURISM MONITORING PROGRAMME 2021-2025

ANNUAL RESULTS FOR 2021

DOONLOUGHAN

for: **Fáilte Ireland**

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Contents

Doonloughan – Interesting Finds

ECOLOGICAL HIGHLIGHTS

The site is mainly made up of machair, which is an important habitat and protected under the EU Habitats Directive. These only occur in western coastal areas of Ireland and Scotland.

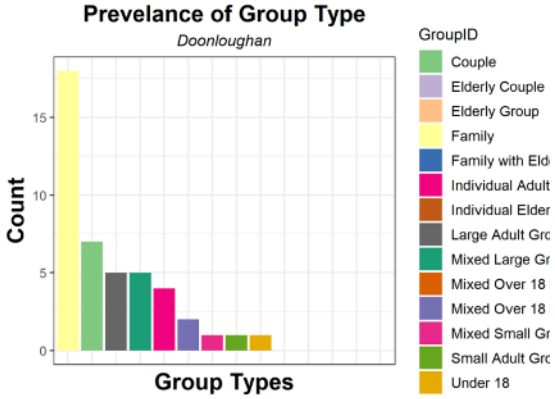
The Machaire present of site is extremely degraded and in need of direct intervention.

KEY RECOMMENDATIONS

- On-site signage to raise awareness on the rarity and importance of the habitats found on site should be installed. A community awareness campaign should be run to promote environmental stewardship
- A visitor management strategy and associated trail network plan is required to alleviate pressures to the protected features by active management of vehicular access across the protected habitat.
- A habitat management plan is required to rehabilitate the dunes and protect the integrity of the machaire. A focus should be places on increasing the floral diversity within the machaire.

VISITOR NUMBERS AND DWELL TIME

- 202 people visited the site over 8 hours
- Due to the disperse nature of the site, the arrival and departure times of the groups were not able to be monitored accurately.



VISITOR INTERACTION & MANAGEMENT

- Visitor interactions on site are not well controlled with high levels of severe impacts being caused by visitors.
- Majority of visitors undertook activities that that did not relate to walking.
- No signage available for visitors.
- Damage is occurring to the site and protected habitats within due to vehicular movement and visitor interactions.

Highlights:

- Severe erosion and trail lines caused by human activity.
- Visitor control measures are needed.
- No signage on site related to wildlife and habitats at site.

1 Doonloughan

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 Doonloughan:

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 Doonloughan was undertaken on the 18th of July 2021, with max temperatures reaching approximately 22.1° C, no rainfall and low levels of wind 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 Doonloughan to identify the species presence of wintering birds and mammals. 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 Doonloughan

Doonloughan is an isolated beach (Figure 7.1) in Mannin, western Galway that is used by many for both swimming and surfing. The area is completely within the Slyne Head Peninsula SAC and bordered by Slyne Head Islands SAC and contains habitats like machairs and rocky sea cliffs.

Figure 1.1 Doonloughan beach

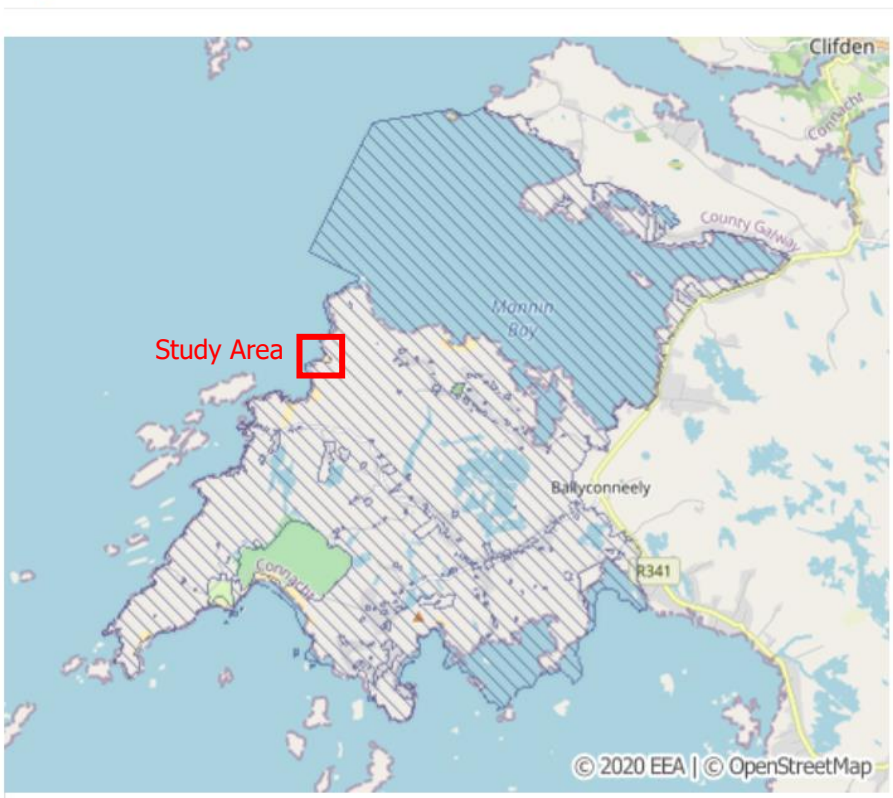


Figure 1.2 Study Area within Slyne Head Peninsula SAC

1.4 Pathways and Features Condition Results

1.4.1 Pathway Condition

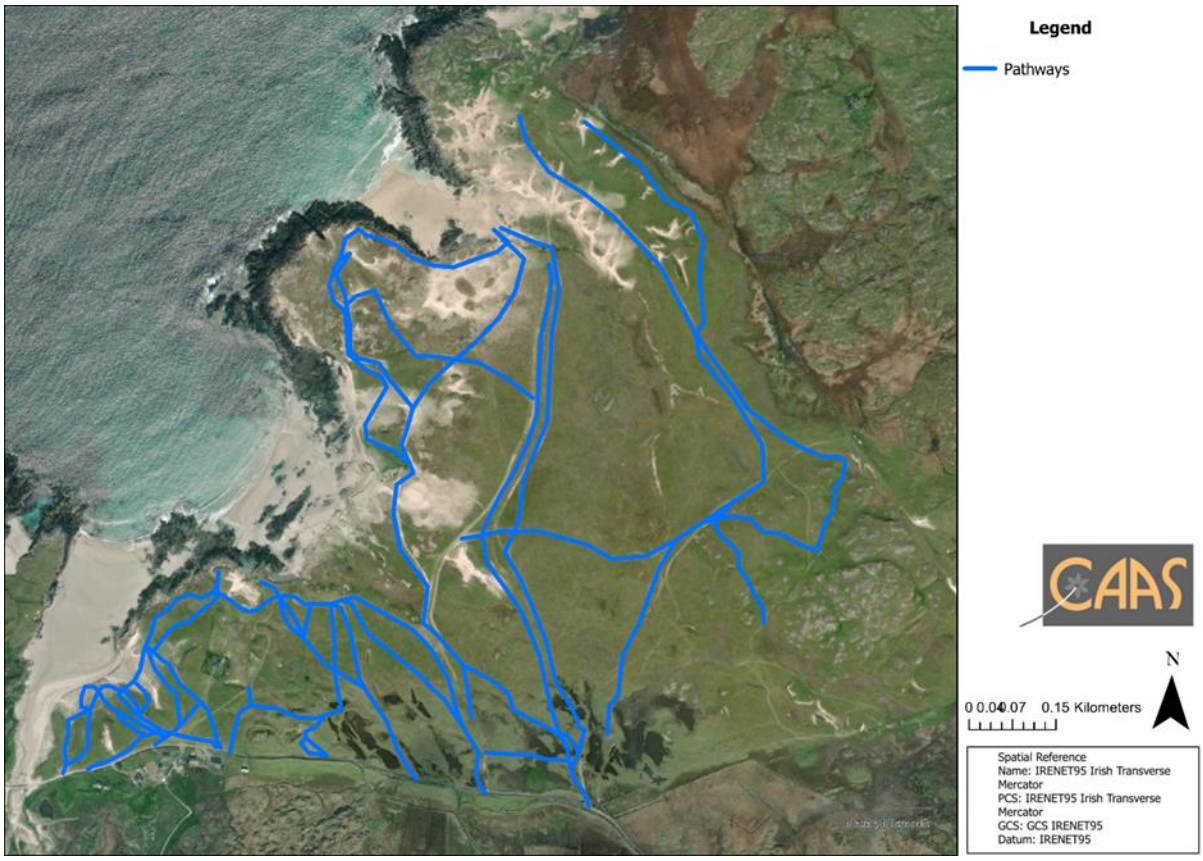


Figure 1.3 Pathways identified at Doonloughan

The paths at Doonloughan consist of mostly sand beach and rock outcrop that are highly variable in terms of width. There are a large number of breakout paths at Doonloughan which have been caused by use of vehicles (Figure 1.4) and are generally the same width. There is a severe degree of compaction in these breakout paths, where sand has been exposed with high levels of erosion.

Figure 1.4 Pathway at Doonloughan

1.4.2 Features Condition

No features or signage were identified during the feature and signage mapping at Doonloughan.

1.4.3 Hazards

No significant hazards were recorded during hazard mapping at Doonloughan.

1.5 Visitor Characterisation Survey

The visitor monitoring surveys resulted in a total of 202 visitors (which represent 44 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 is unavailable[2]; however, the following activities were undertaken during the survey (listed in order of occurrence rate):

Activity Type
Camping
Off road driving
Lighting Campfire
BBQing
Picnicking
Dog walking (off lead)
Swimming
Littering

[2] Due to the disperse nature of the site, the arrival and departure times at Doonloughan is unavailable.

Activity Type
Sports Match (informal)
Fishing
Frisbee/ Catch
Playing Music
Reading
Sitting
Surfing

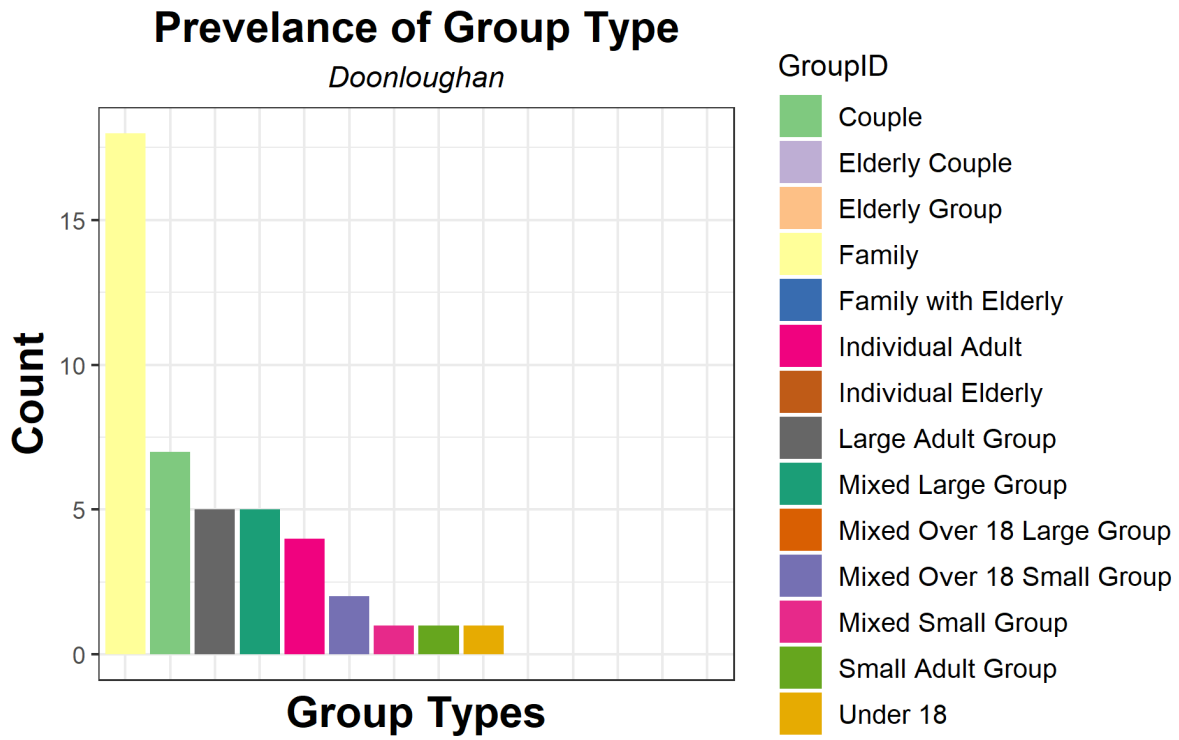


Figure 1.5 Groups of visitors that visited Doonloughan

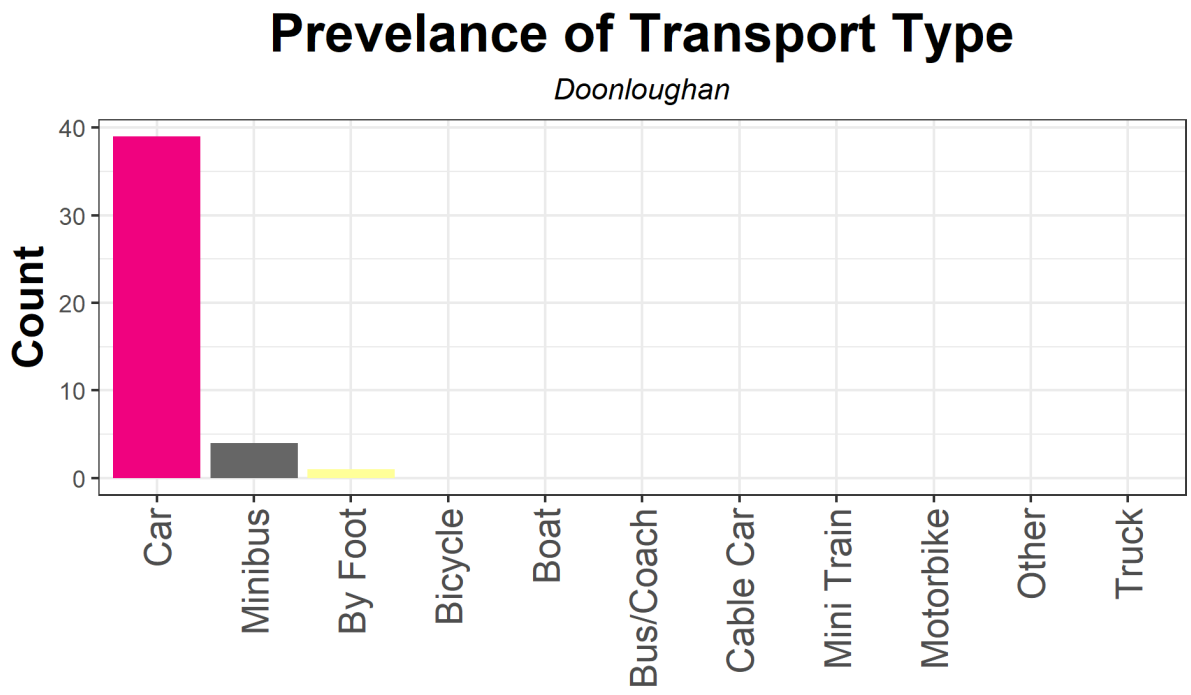


Figure 1.6 Mode of transport used to visit Doonloughan

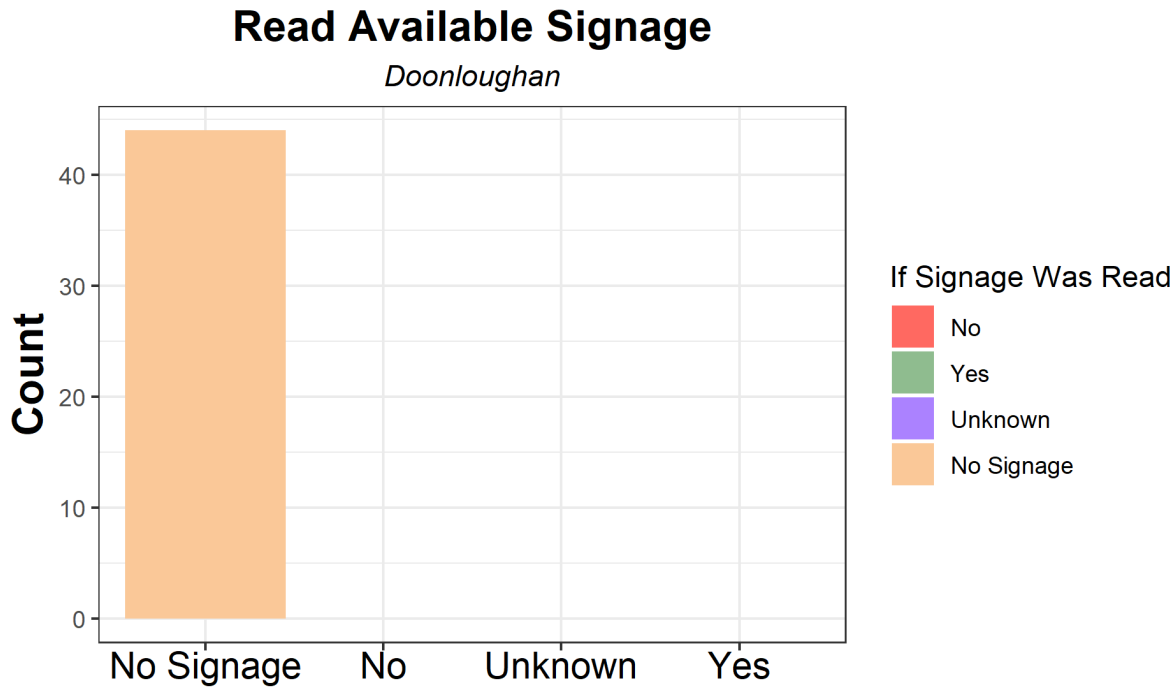


Figure 1.7 Use of Interpretive Material at Doonloughan

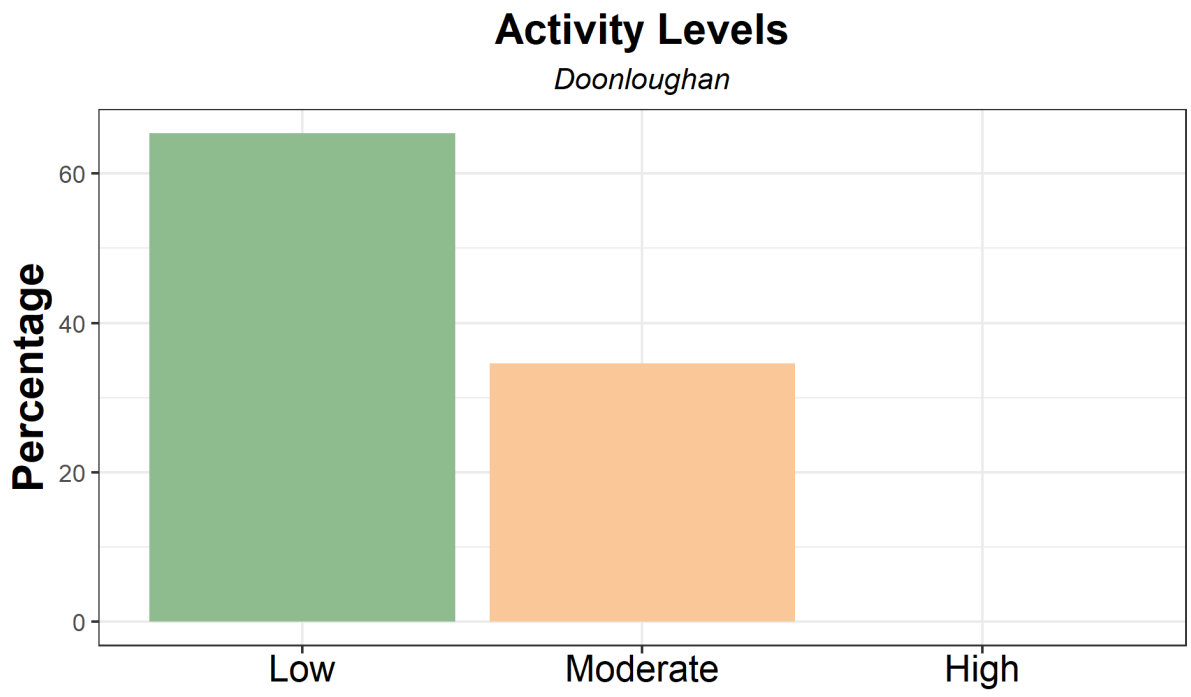


Figure 1.8 Categories of Activity Levels Observed at Doonloughan

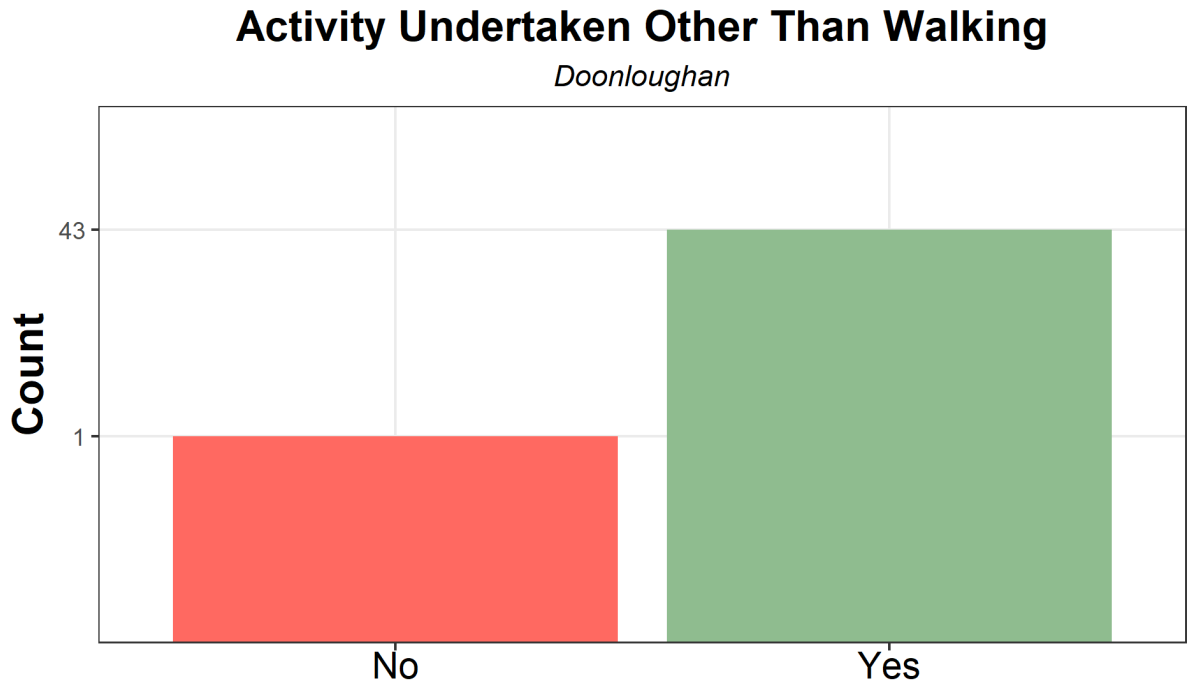


Figure 1.9 Activities undertaken other than walking

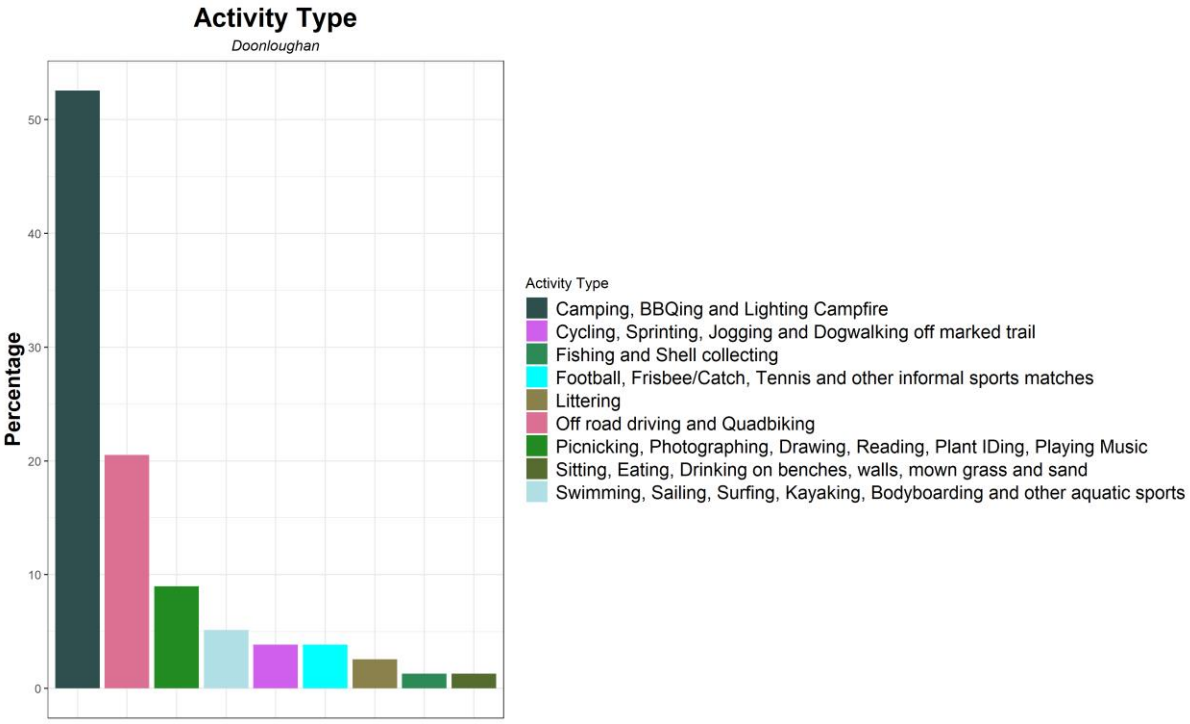


Figure 1.10 Range of Visitor Activities Observed at Doonloughan

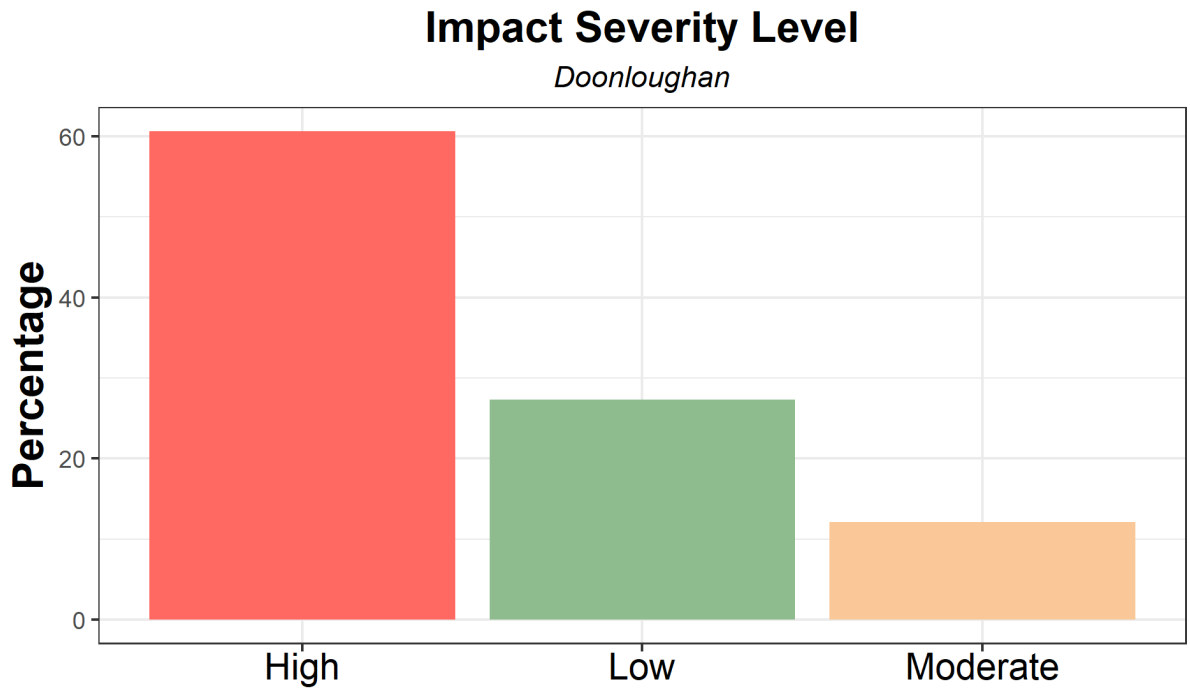


Figure 1.11 Categories of Environmental Impact Levels Observed at Doonloughan as a result of Visitor Activities

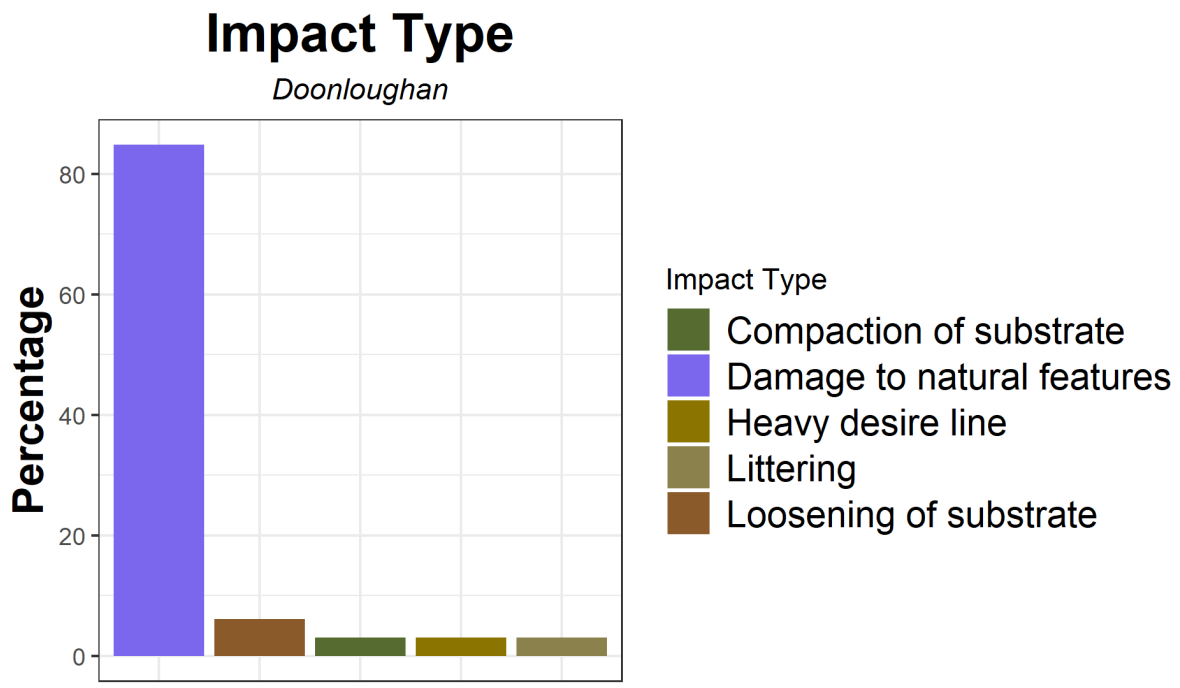


Figure 1.12 Range of Environmental Impacts Observed at Doonloughan

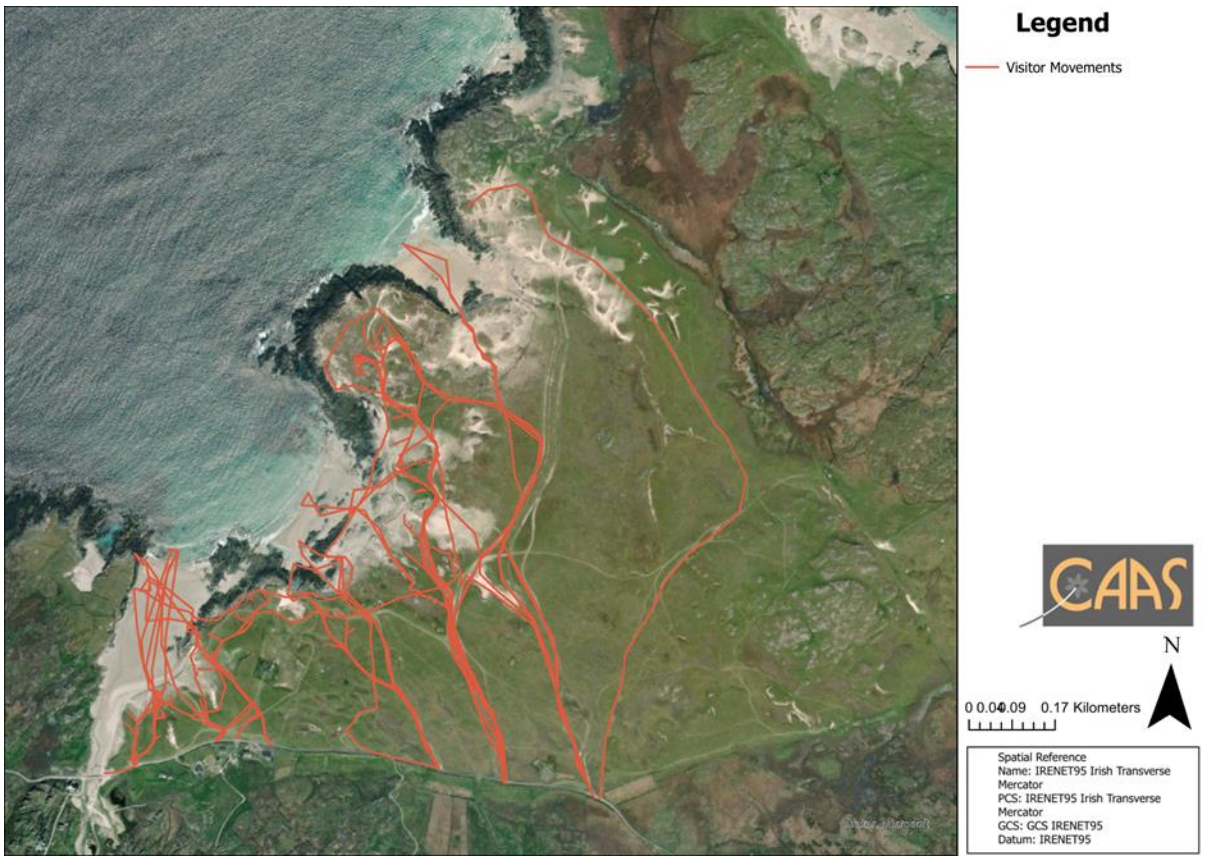


Figure 1.13 Visitor movement patterns at Doonloughan

Of the 44 groups recorded on site 98% of them undertook activities other than walking. These activities (identified above) resulted in 33 impacts being observed on site during the survey. Thus, 42% of activities on site resulted in impacts on the environment. The impact severity levels varied with 27% of the impacts being low, 12% of impacts being moderate, and 61% of impacts being high severity. The impacts identified for the site were:

Impact Type	Count
Compaction of substrate	1
Damage to natural features	28
Heavy desire line	1
Littering	1
Loosening of substrate	2

Figure 1.14 Desire lines and erosion seen at Doonloughan

1.6 Ecological Monitoring Results

1.6.1 Ecological Constraints

The habitats within 2km of Doonloughan are sensitive to pollution, hydrological changes, alien species, land use management and overgrazing while species within these habitats are sensitive to habitat availability and water quality.

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

Site Code	Site Name	Distance (km)	Site Type	Qualifying Feature
[002074]	Slyne Head Peninsula SAC	0.00	SAC	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140], Semi-natural dry grasslands and scrubland facies on calcareous substrates *(Festuco-Brometalia)* * important orchid sites [6210], Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea [3130], Annual vegetation of drift lines [1210], Slender naiad *(Najas flexilis)* [1833], Perennial vegetation of stony banks [1220], Mediterranean salt meadows *(Juncetalia maritimi)* [1410], Alkaline fens [7230], Shifting dunes along the shoreline with Ammophila arenaria - white dunes [2120], Atlantic salt meadows *(Glauco-Puccinellietalia maritimae)* [1330], Petalwort *(Petalophyllum ralfsii)* [1395], Large shallow inlets and bays [1160], Coastal lagoons [1150], Common Bottlenose Dolphin *(Tursiops truncatus)* [1349], Oligotrophic waters containing very few minerals of sandy plains *(Littorelletalia uniflorae)* [3110], *Juniperus communis* formations on heaths or calcareous grasslands [5130], Lowland hay meadows *(Alopecurus pratensis, Sanguisorba officinalis)* [6510], European dry heaths [4030], Reefs [1170], Machairs * in Ireland [21A0], Molinia meadows on calcareous, peaty or clayey-silt-laden soils *(Molinion caeruleae)* [6410], Embryonic shifting dunes [2110]

Site Code	Site Name	Distance (km)	Site Type	Qualifying Feature
[000328]	Slyne Head Islands SAC	0.27	SAC	Common Bottlenose Dolphin *(Tursiops truncatus)* [1349], Reefs [1170], Grey seal *(Halichoerus grypus)* [1364]
[000328]	Slyne Head Islands pNHA	0.59	pNHA	
[002998]	West Connacht Coast SAC	1.31	SAC	Bottlenose dolphin *(Tursiops truncatus)* [1349]

1.6.2 Habitat Descriptions

The habitats at Doonloughan are dominated by a network of machairs (Fossitt Code CD6) which align with the Annex I habitat for which the SAC is designated (Machairs* in Ireland [21A0]). As Doonloughan is a coastal area, the rest of the habitat is made up of rocky sea cliffs (Fossitt Code CD6).

Vehicular movement is evident throughout the habitat; there is severe and dispersed damage to the protected features of the site due to amenity use. Direct intervention is needed throughout the site.

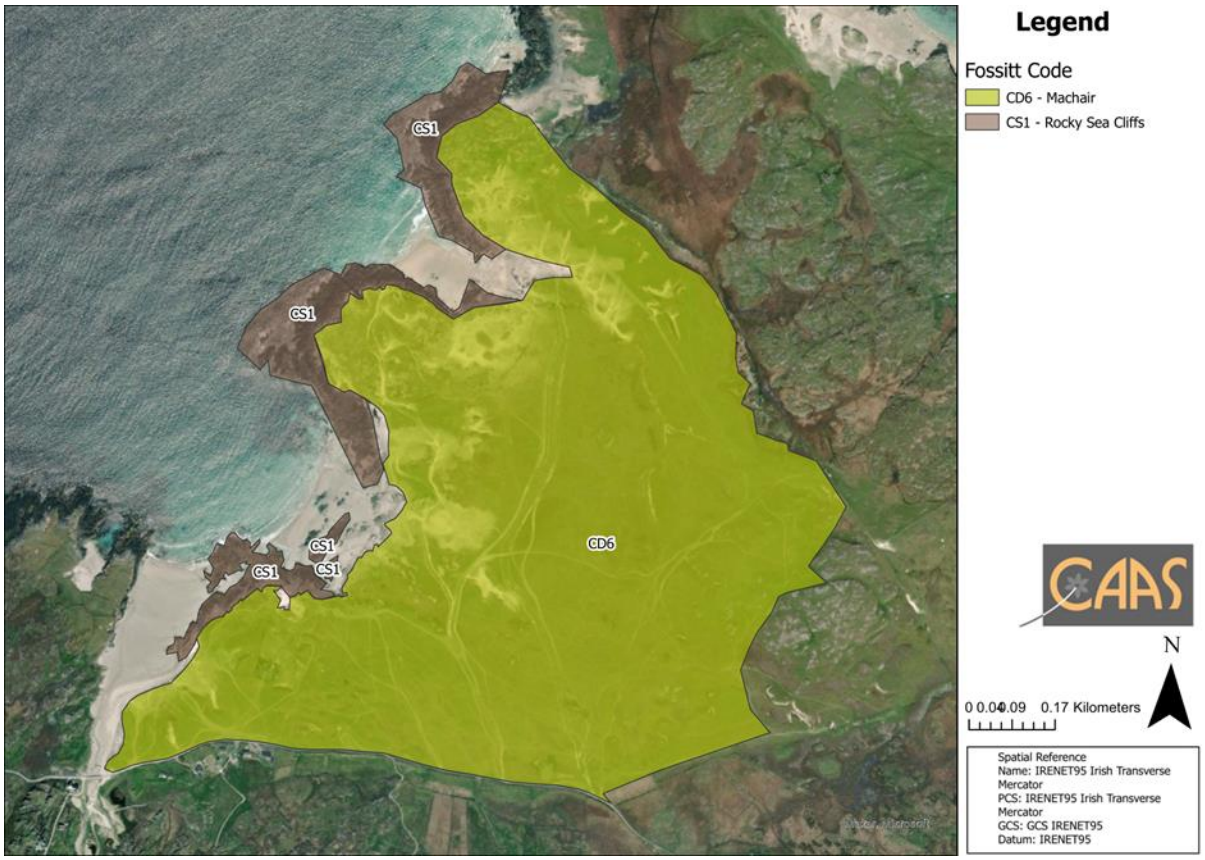


Figure 1.15 Habitats present at Doonloughan

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[3] following the assessment scale was "4" which means the majority of the habitats have a localised negative impact, requiring intervention to allow full recovery. There were 31 recorded incidents of damage to habitats occurring off the marked paths on site. The causes of damage were identified to be vehicles, walking and camping.

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

1.6.4 Mammals on Site

No mammals were recorded on site at Doonloughan during the visit. Due to its coastal location, the NBDC data shows that there are a large number of marine mammals in the area including dolphins and seals. With regards to terrestrial mammals, a small number were recorded including species such as rabbits and hares.

Table 1.2 List of mammals that have been recorded at NBDC Hectad L54

Taxonomic group	Common name	Scientific name	Record count
Marine mammal	Atlantic White-sided Dolphin	*Lagenorhynchus acutus*	5
Marine mammal	Bottle-nosed Dolphin	*Tursiops truncatus*	10
Marine mammal	Common Dolphin	*Delphinus delphis*	11
Marine mammal	Common Porpoise	*Phocoena phocoena*	1
Marine mammal	Common Seal	*Phoca vitulina*	2
Marine mammal	Cuvier's Beaked Whale	*Ziphius cavirostris*	6
Marine mammal	Grey Seal	*Halichoerus grypus*	1,750
Marine mammal	Long-finned Pilot Whale	*Globicephala melas*	3
Marine mammal	Minke Whale	*Balaenoptera acutorostrata*	1
Marine mammal	Sperm Whale	*Physeter macrocephalus*	1
Marine mammal	Striped Dolphin	*Stenella coeruleoalba*	2
Marine mammal	True's Beaked Whale	*Mesoplodon mirus*	1
Marine mammal	White-beaked Dolphin	*Lagenorhynchus albirostris*	1
Terrestrial mammal	Daubenton's Bat	*Myotis daubentonii*	2
Terrestrial mammal	Eurasian Badger	*Meles meles*	1
Terrestrial mammal	European Otter	*Lutra lutra*	2
Terrestrial mammal	European Rabbit	*Oryctolagus cuniculus*	4
Terrestrial mammal	Irish Hare	*Lepus timidus subsp. hibernicus*	6
Terrestrial mammal	Red Fox	*Vulpes vulpes*	1
Terrestrial mammal	Soprano Pipistrelle	*Pipistrellus pygmaeus*	4

1.6.5 Wintering Bird Survey

A flock of storm petrel were observed flying over the site – and an elegant tern was roosting on the water to the west of the beach during the site visit. Elegant terns are a near threatened species.

Table 1.3 Results of the wintering bird survey conducted at Doonloughan

Common name	Scientific name	Record count
Storm petrel	*Hydrobates pelagicus*	17
Elegant tern	*Thalasseus elegans*	1

Table 1.4 List of wintering birds that have been recorded at NBDC Hectad L54

Taxonomic group	Common name	Scientific name	Record count
Bird	Alcidae	*Alcidae*	1
Bird	American Golden Plover	*Pluvialis dominica*	5
Bird	Arctic Tern	*Sterna paradisaea*	6
Bird	Barnacle Goose	*Branta leucopsis*	1
Bird	Bar-tailed Godwit	*Limosa lapponica*	1
Bird	Black Guillemot	*Cepphus grylle*	6
Bird	Black-headed Gull	*Larus ridibundus*	8
Bird	Blue-winged Teal	*Anas discors*	1
Bird	Brent Goose	*Branta bernicla*	1
Bird	Canada Goose	*Branta canadensis*	1
Bird	Common Coot	*Fulica atra*	4
Bird	Common Eider	*Somateria mollissima*	4
Bird	Common Greenshank	*Tringa nebularia*	4
Bird	Common Moorhen	*Gallinula chloropus*	12
Bird	Common Pochard	*Aythya ferina*	1
Bird	Common Redshank	*Tringa totanus*	6
Bird	Common Sandpiper	*Actitis hypoleucos*	4

Taxonomic group	Common name	Scientific name	Record count
Bird	Common Scoter	*Melanitta nigra*	3
Bird	Common Shelduck	*Tadorna tadorna*	4
Bird	Common Snipe	*Gallinago gallinago*	13
Bird	Common Tern	*Sterna hirundo*	2
Bird	Dunlin	*Calidris alpina*	8
Bird	Eurasian Curlew	*Numenius arquata*	7
Bird	Eurasian Dotterel	*Charadrius morinellus*	4
Bird	Eurasian Oystercatcher	*Haematopus ostralegus*	10
Bird	Eurasian Teal	*Anas crecca*	5
Bird	Eurasian Woodcock	*Scolopax rusticola*	4
Bird	European Golden Plover	*Pluvialis apricaria*	5
Bird	European Shag	*Phalacrocorax aristotelis*	11
Bird	European Storm-petrel	*Hydrobates pelagicus*	1
Bird	Fea's Petrel	*Pterodroma feae*	1
Bird	Glaucous Gull	*Larus hyperboreus*	2
Bird	Great Black-backed Gull	*Larus marinus*	14
Bird	Great Cormorant	*Phalacrocorax carbo*	7
Bird	Great Northern Diver	*Gavia immer*	4
Bird	Great Skua	*Stercorarius skua*	2
Bird	Grey Heron	*Ardea cinerea*	11
Bird	Grey Plover	*Pluvialis squatarola*	3
Bird	Herring Gull	*Larus argentatus*	11
Bird	Iceland Gull	*Larus glaucoides*	2
Bird	Jack Snipe	*Lymnocryptes minimus*	2
Bird	Lesser Black-backed Gull	*Larus fuscus*	11
Bird	Little Grebe	*Tachybaptus ruficollis*	11
Bird	Little Tern	*Sternula albifrons*	4
Bird	Long-billed Dowitcher	*Limnodromus scolopaceus*	1
Bird	Long-tailed Duck	*Clangula hyemalis*	2
Bird	Mallard	*Anas platyrhynchos*	13
Bird	Manx Shearwater	*Puffinus puffinus*	5
Bird	Mew Gull	*Larus canus*	17
Bird	Mute Swan	*Cygnus olor*	10
Bird	Northern Fulmar	*Fulmarus glacialis*	4
Bird	Northern Gannet	*Morus bassanus*	5
Bird	Northern Lapwing	*Vanellus vanellus*	17
Bird	Purple Sandpiper	*Calidris maritima*	3
Bird	Red-breasted Merganser	*Mergus serrator*	8
Bird	Red-throated Diver	*Gavia stellata*	3
Bird	Ringed Plover	*Charadrius hiaticula*	14
Bird	Ruddy Turnstone	*Arenaria interpres*	3
Bird	Sanderling	*Calidris alba*	4
Bird	Sandwich Tern	*Sterna sandvicensis*	2
Bird	Sora	*Porzana carolina*	1
Bird	Tufted Duck	*Aythya fuligula*	2
Bird	Water Rail	*Rallus aquaticus*	5
Bird	Whooper Swan	*Cygnus cygnus*	4
Bird	Wilson's Storm-petrel	*Oceanites oceanicus*	2

1.7 Recommendations

- On-site signage to raise awareness on the rarity and importance of the habitats found on site should be installed. A community awareness campaign should be run to promote environmental stewardship
- A visitor management strategy and associated trail network plan is required to alleviate pressures to the protected features by active management of vehicular access across the protected habitat.

A habitat management plan is required to rehabilitate the dunes and protect the integrity of the machaire. A focus should be places on increasing the floral diversity within the machaire

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[4]. 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.

[4] 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.