NATIONAL TOURISM MONITORING PROGRAMME 2021-2025

ANNUAL RESULTS FOR 2021

BRAY HEAD

for: **Fáilte Ireland**

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October 2022

Document Control

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Status of this version	Final	

Contents

Bray Head – Interesting Finds

HIGH LEVELS OF CHOUGH FORAGING ACTIVITY

The chough – which is a red billed crow – is present on the site; this is a nationally rare and internationally protected species. It thrives where low intensity livestock farming systems occur close to suitable nesting sites on rock faces, in caves and in old buildings. In Britain and Ireland this combination is only found in the wilder and more remote west coasts and some adjacent inland areas.

KEY RECOMMENDATION

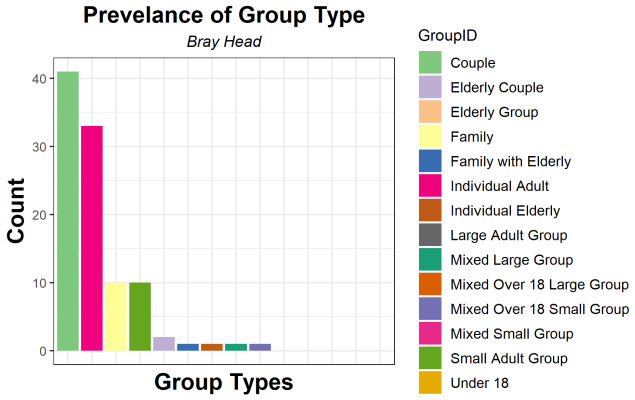
- The site is well managed in most respects related to tourism;
- Should visitor numbers increase - particularly along the upper trail through the heathland, there could be future issues for the site.
- Therefore, it is recommended that a boardwalk or stone pathway trail be explored as future options.

VISITOR INTERACTION & MANAGEMENT

- Visitor interactions on site well controlled with strong management practices in place.
- Low levels of impacts were observed on site.
- Hard infrastructure path along the main track means there were few activities undertaken on site.
- Most of the visitors to the site stayed for at least 48 minutes – given the nature of the site being a long walkway with an option of a loop.

VISITOR NUMBERS AND DWELL TIME

- 206 people visited the site over 8 hours
- Average dwell time of 48 minutes



Highlights:

- Chough present on site
- Upper trail is showing signs of overuse
- Long site dwell time of at least 48 minutes
- Site signage is limited – missed opportunity for wildlife

1 Bray Head

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 Bray Head:

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 Bray Head was undertaken on the 17th of July 2021, with max temperatures reaching approximately 25.1° 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 surveys were undertaken at Bray Head to identify the species presence 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 Bray Head

Bray Head hosts a 7km loop walk along the coast of Valentia Island, where the vacated Bray tower (Figure 1.2) along with the perfect view of the wonderous Skellig Islands awaits at the top of the trail (Figure 1.3). The start of the Bray Head loop walk itself can be reached through walking from the car park at Foilhommerum Bay. Bray Head is located within the Iveragh Peninsula SPA and borders the Valencia Harbour/Portmagee Channel SAC and contains habitats such as montane heath and dry meadows and grassy verges.

The receiving point to the site is a carpark with picnic benches and signage relating to heritage features around the site. There is a map with waymarked trails up to the tower and surrounding hilltop.

Figure 1.1 Main trail leading to the tower at Bray Head

Figure 1.2 Tower at the main viewing point on the Bray head site

Figure 1.3 View of the Skellig's along the Bray Head trail

1.4 Pathways and Features Condition Results

1.4.1 Pathway Condition

The path is a mix of hard and soft trails which lead from the carpark to the main viewing point which is the tower (Figure 1.5). At and around the tower there are a number of desire lines and compaction areas – there are early signs of site overuse with some bare soil areas. The most used trail from the carpark to the tower is largely confined by two deep ditches which confine activity.

The northern trail to up to the highest point is a waymarked trail. This trail is through heathland habitat and there is evident signs of damage to the habitat within the locality of the path itself. In areas of steep topography there are higher rates of erosion and bare peat sub-strata. On the downward track leading back towards the carpark the trail is highly variable up to almost 8 meters at its widest part. This shows signs of extensive dispersion.

The vegetated paths show clear signs of compaction and impact from excess visitor numbers. Interventions should be considered to ensure that future loadings of the site can be facilitated by the trail network on site.

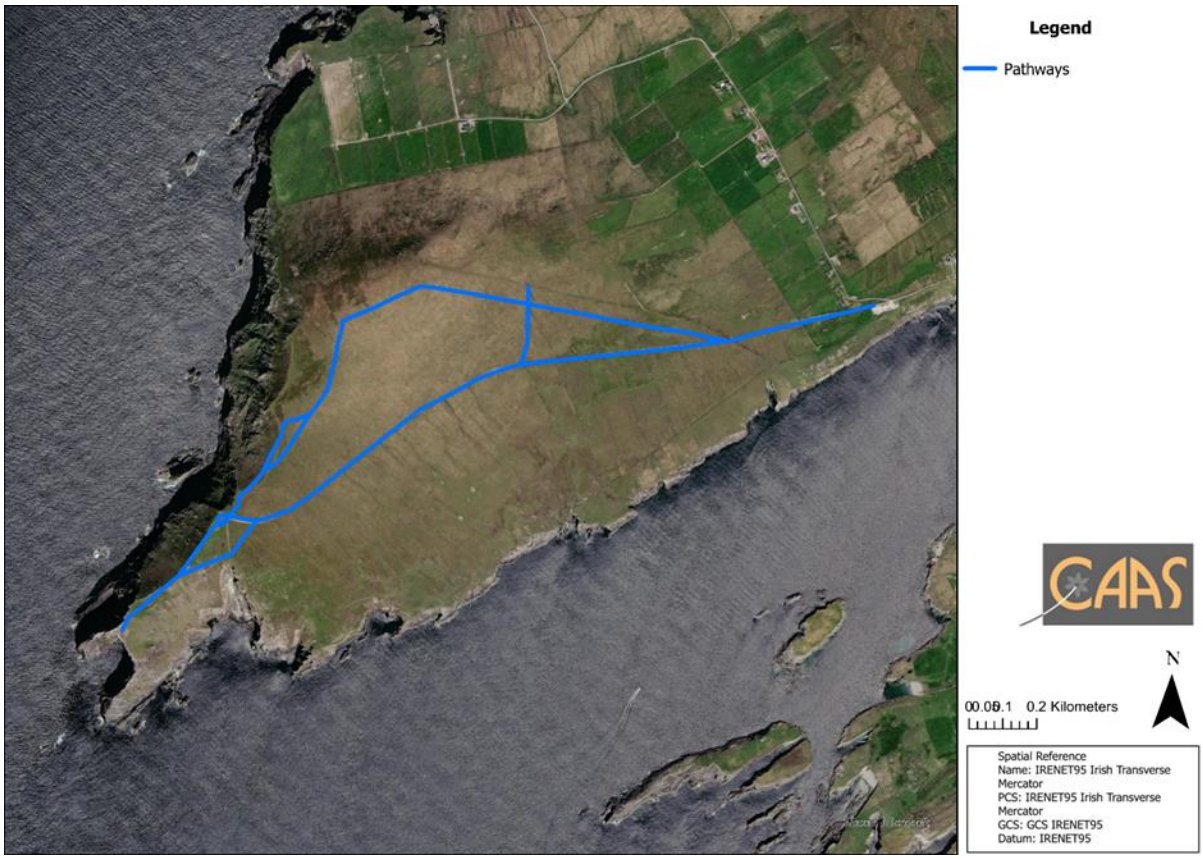


Figure 1.4 Pathways identified at Bray Head

Figure 1.5 Tower at Bray Head

1.4.2 Features Condition

The site has a number of trail markings and some facilities on site - however, there is a lack of signage related to the ecological value of the biodiversity at the site. This is seen to be a missed opportunity for environmental awareness. There area however signs and information boards which provide information on the heritage of Bray Head along with a sign designating Bray Head as part of the Wild Atlantic Way (Figure 1.7).

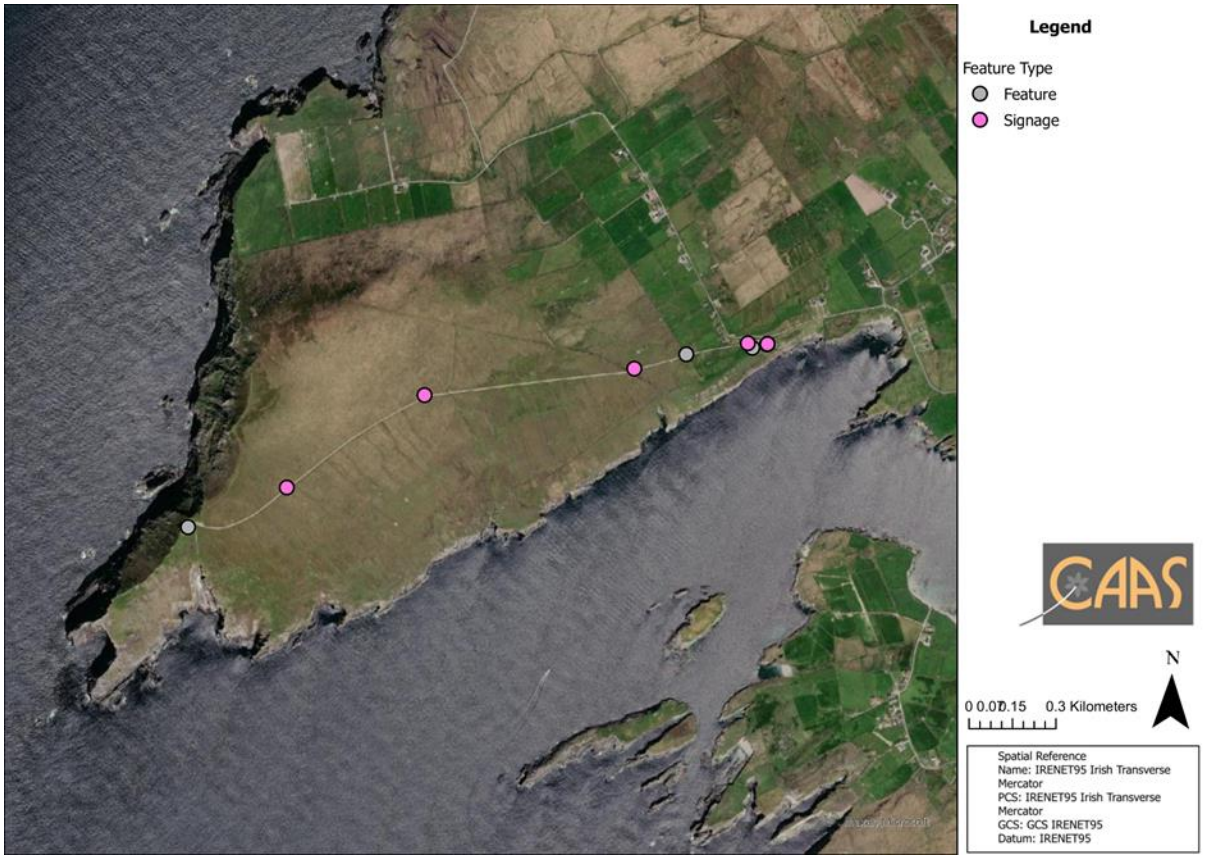


Figure 1.6 Features recorded at Bray Head – these features are way mark signs and information signage

Figure 1.7 Features noted at Bray Head

1.4.3 Hazards

There is erosion on some pathways along Bray Head (Figure 1.8) however, the hazard mapping identified no obvious safety issues or hazards for the site.

Figure 1.8 Example of erosion at Bray Head

1.5 Visitor Characterisation Survey

The visitor monitoring surveys resulted in a total of 206 visitors (which represent 100 sample group observations). The site is most popular amongst the Couple group with the dominant mode of transport being Car. The average dwell time for the site was 48 minutes; with the following activities undertaken during the survey (listed in order of occurrence rate):

Activity Type
Photographing
Exploring off trail
Picnicking
Dog walking (on lead)
Sitting
Birdwatching
Climbing
Cycling
Dog walking (off lead)
Eating
Flower picking
Flying drone
Jogging

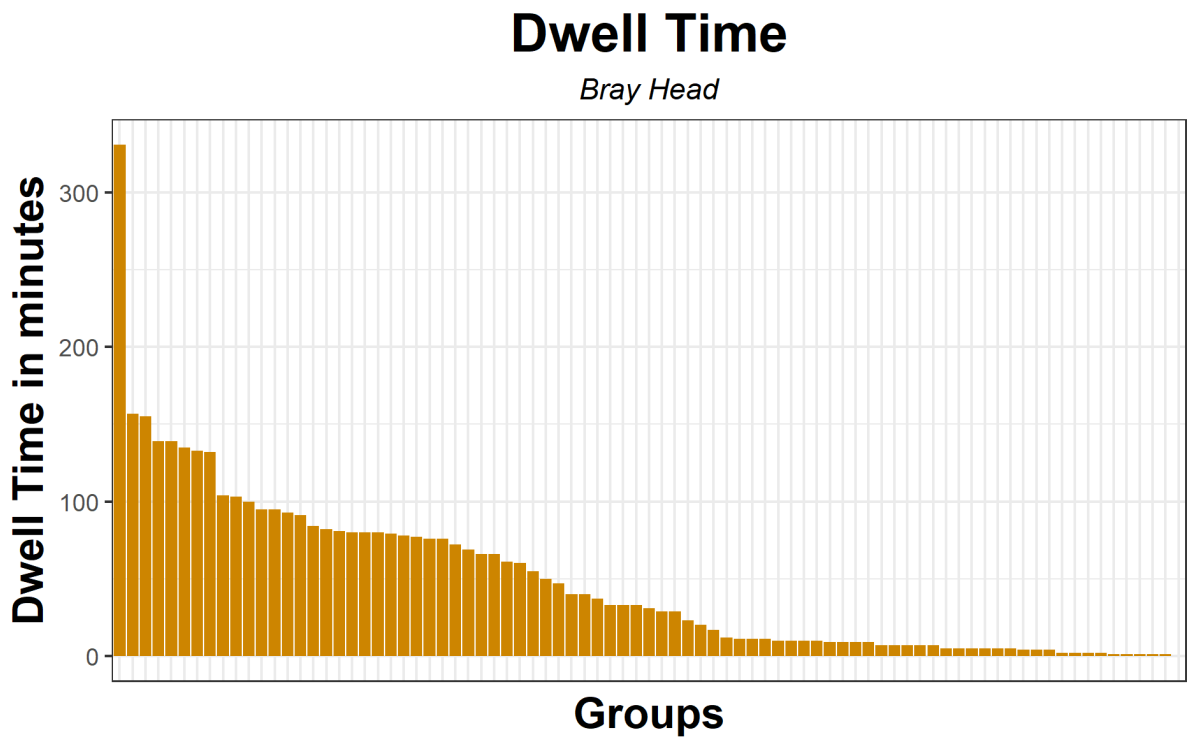


Figure 1.9 Duration of Time Spent at Bray Head

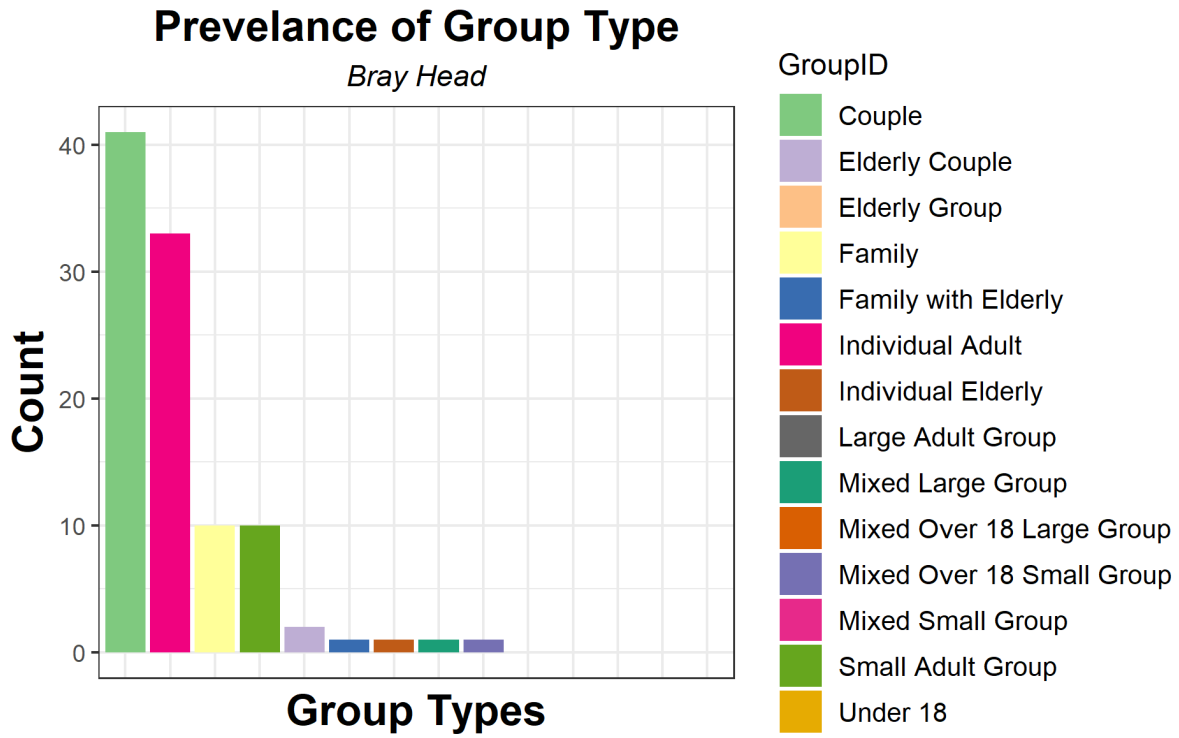


Figure 1.10 Groups of visitors that visited Bray Head

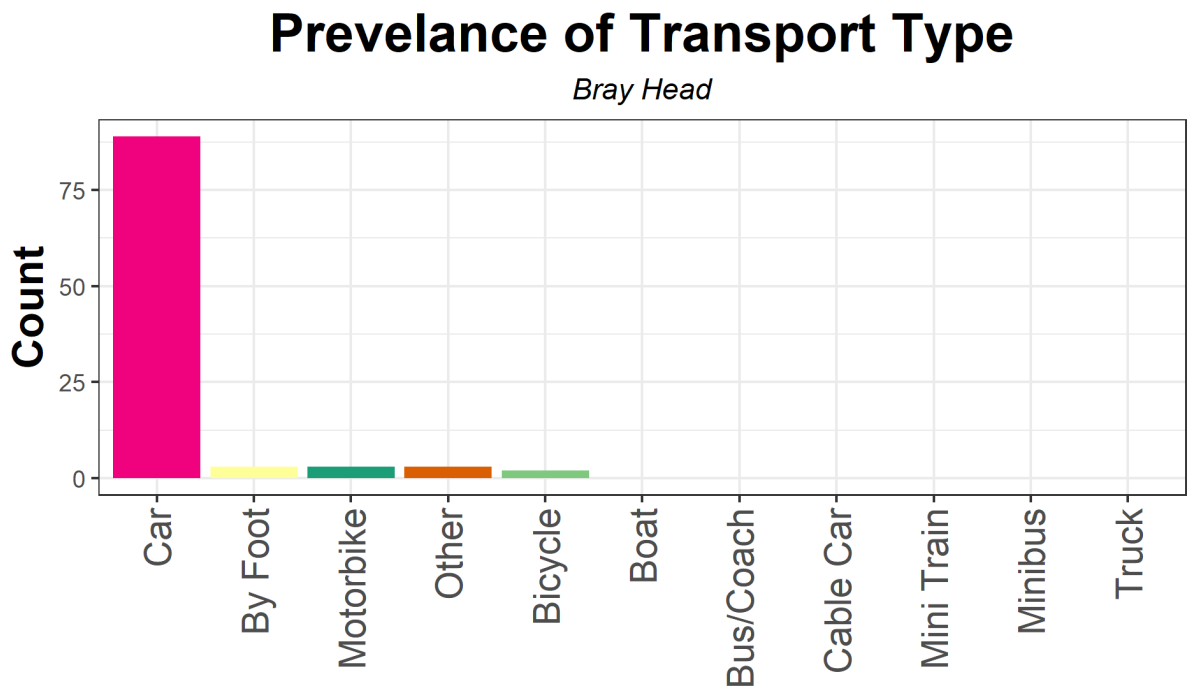


Figure 1.11 Mode of transport used to visit Bray Head

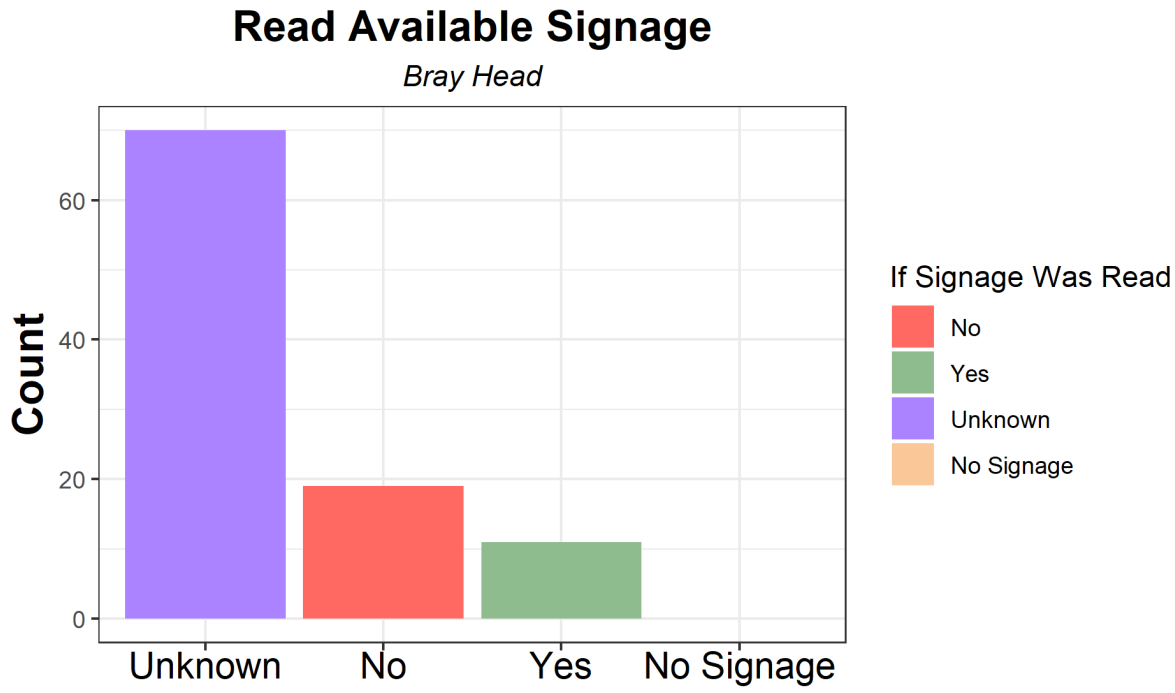


Figure 1.12 Use of Interpretive Material at Bray Head

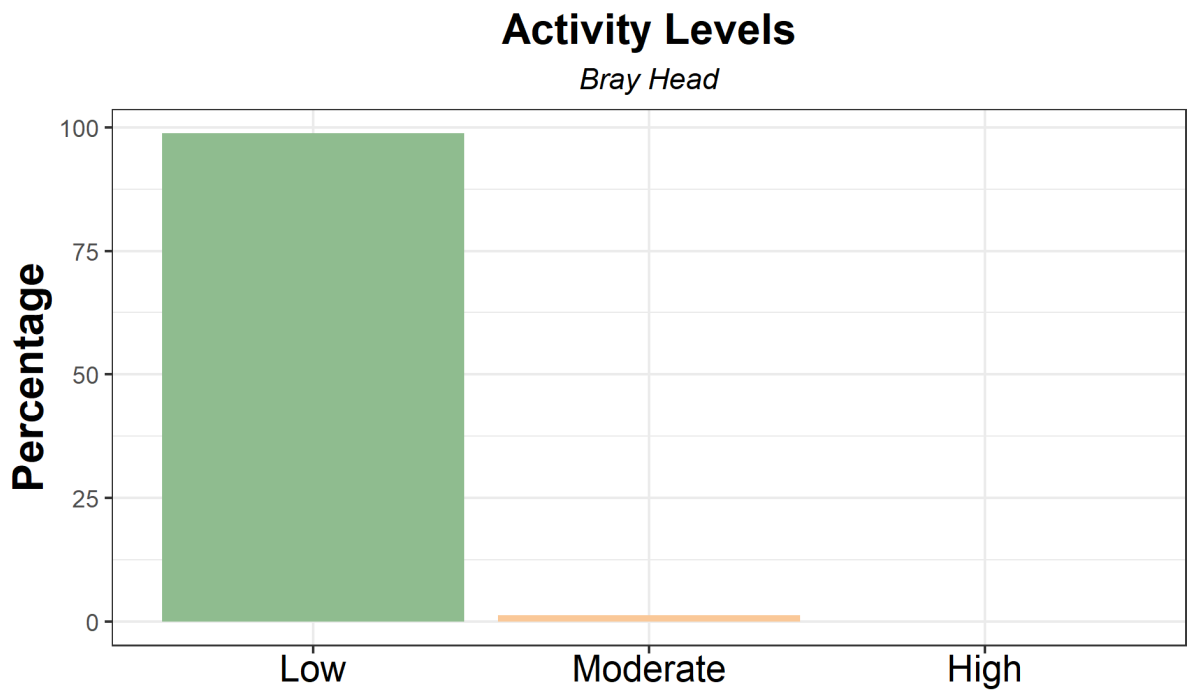


Figure 1.13 Categories of Activity Levels Observed at Bray Head

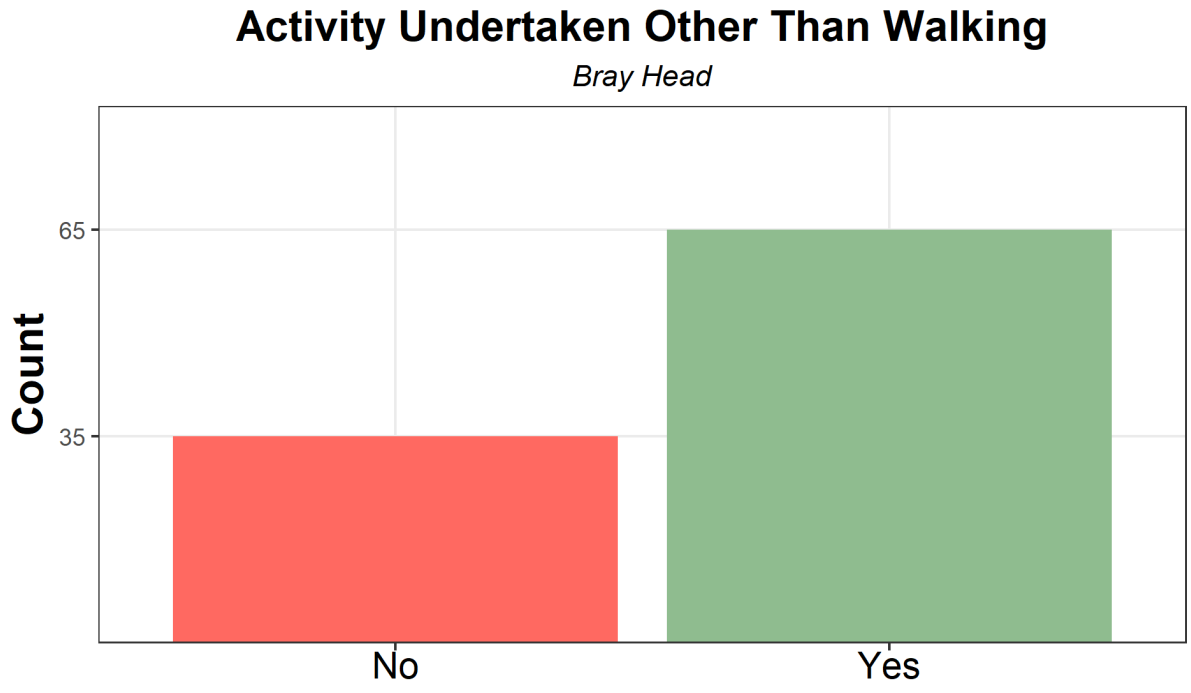


Figure 1.14 Activities undertaken other than walking

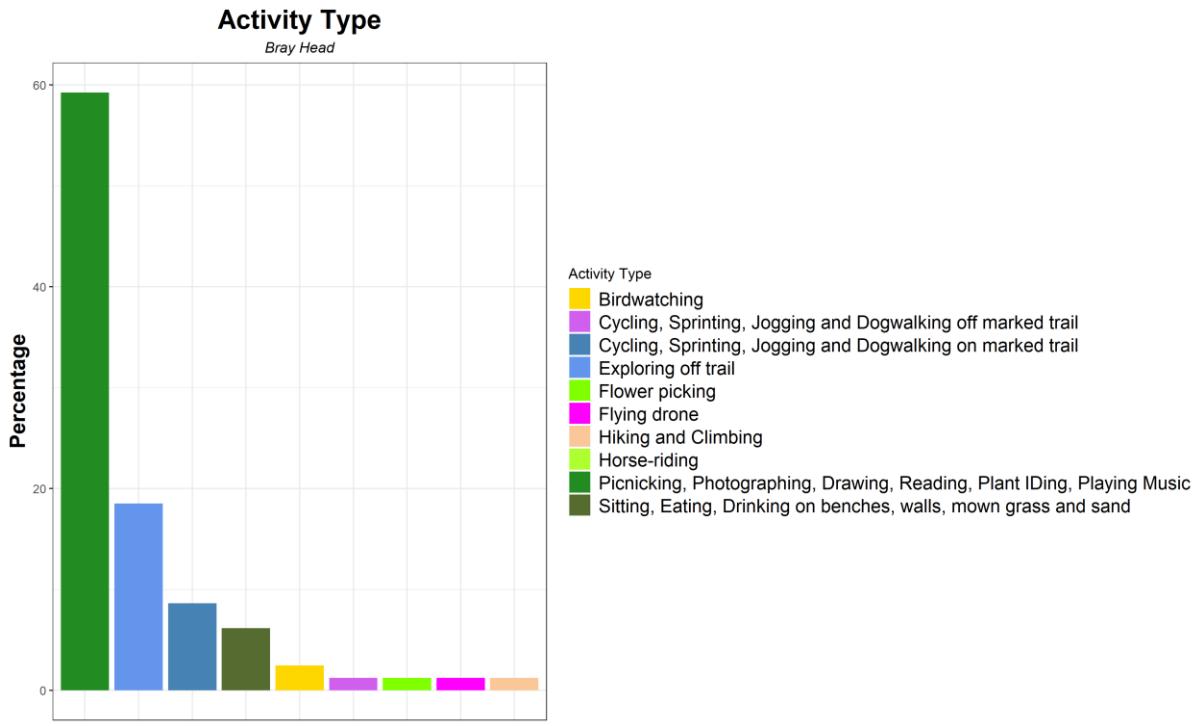


Figure 1.15 Range of Visitor Activities Observed at Bray Head

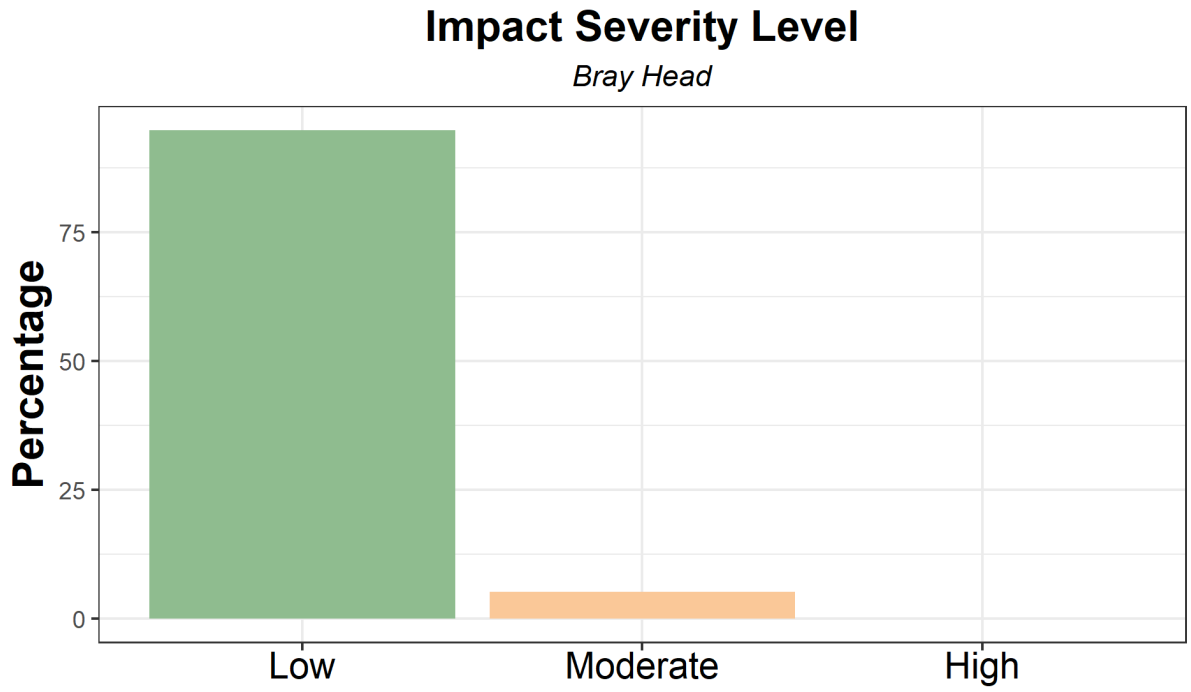


Figure 1.16 Categories of Environmental Impact Levels Observed at Bray Head as a result of Visitor Activities[2]

[2] Impact severity was measures as a categorical variable which has a range of impact factors that are pre-determined; such as injuring, killing or taking wildlife as a severe impact (high) and temporary disturbance of wildlife being a low impact. These are explained fully in the method section above.

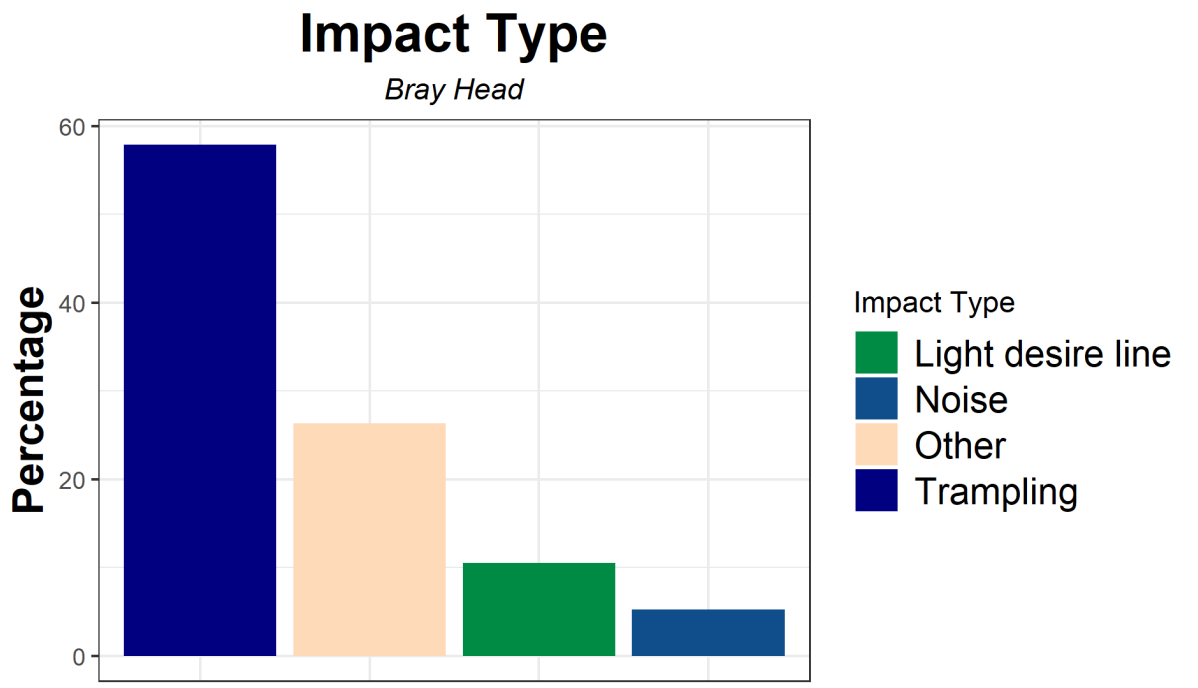


Figure 1.17 Range of Environmental Impacts Observed at Bray Head

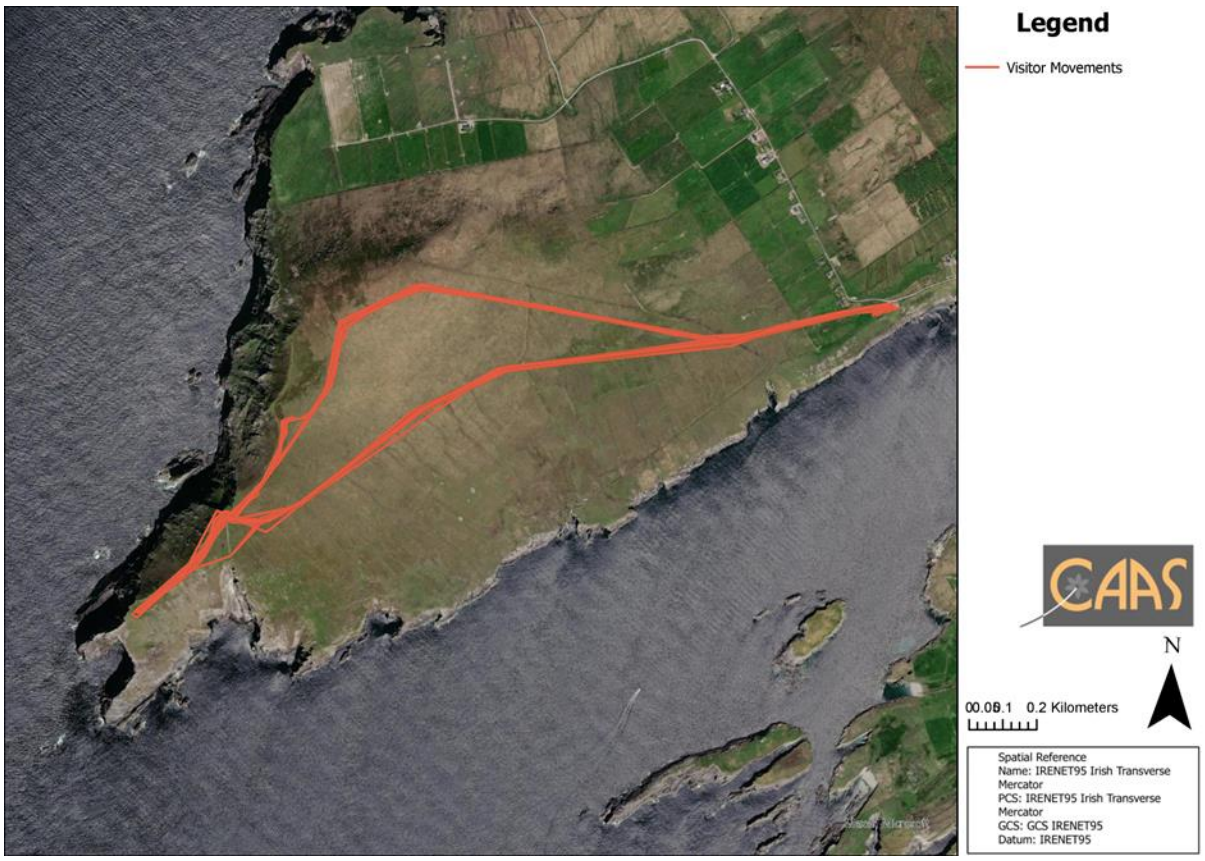


Figure 1.18 Visitor movement patterns at Bray Head

Of the 100 sample groups recorded on site 65% of them undertook activities other than walking. These activities (identified above) resulted in 19 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 95% of the impacts being low, 5% of impacts being moderate, and 0% of impacts being high severity. The impacts identified for the site were:

Impact Type	Count
Light desire line	2
Noise	1
Other	5
Trampling	11

1.6 Ecological Monitoring Results

1.6.1 Ecological Constraints

The habitats within 2km of Bray are sensitive to water pollution, invasive species and direct damage and the sensitive species found within 2km are sensitive to pollution and disturbance effects.

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

Site Code	Site Name	Distance (km)	Site Type	Qualifying Feature
[001382]	Valencia Island Cliffs pNHA	0.00	pNHA	
[004154]	Iveragh Peninsula SPA	0.00	SPA	Kittiwake *(Rissa tridactyla)* [A188], Peregrine falcon *(Falco peregrinus)* [A103], Guillemot *(Uria aalge)* [A199], Chough *(Pyrrhocorax pyrrhocorax)* [A346], Fulmar *(Fulmarus glacialis)* [A009]
[002262]	Valencia Harbour/Portmagee Channel SAC	0.14	SAC	Mudflats and sandflats not covered by seawater at low tide [1140], Reefs [1170], Large shallow inlets and bays [1160]
[001373]	Puffin Sound-Horse Island Cliffs pNHA	0.31	pNHA	

1.6.2 Habitat Descriptions

The main habitat at Bray head is mountain heath which dominates most of the landscape (Figure 1.19). The area has low intensity cattle graze present and it was recorded that a number of Chough use the site regularly. The area surrounding the castle at the top of the walkway is characterised by a very short grass sward – this is a low diversity mix which has higher intensity sheep graze which is resulting in a very short sward.

The site is well managed with the majority of the visitors staying along the soft infrastructure path. The main area of visitor activity which is off path – has incidences of exposed soils from trampling – however these are localised. The loop walk has less footfall but there is more damage to the habitats as a result – with the steep incline areas of the heath having high rates of exposed substrate and damage. The carpark side of the main peak on site has a widely dispersed network of trails showing dispersed damage – likely to be due to the topography and wet conditions of the site.

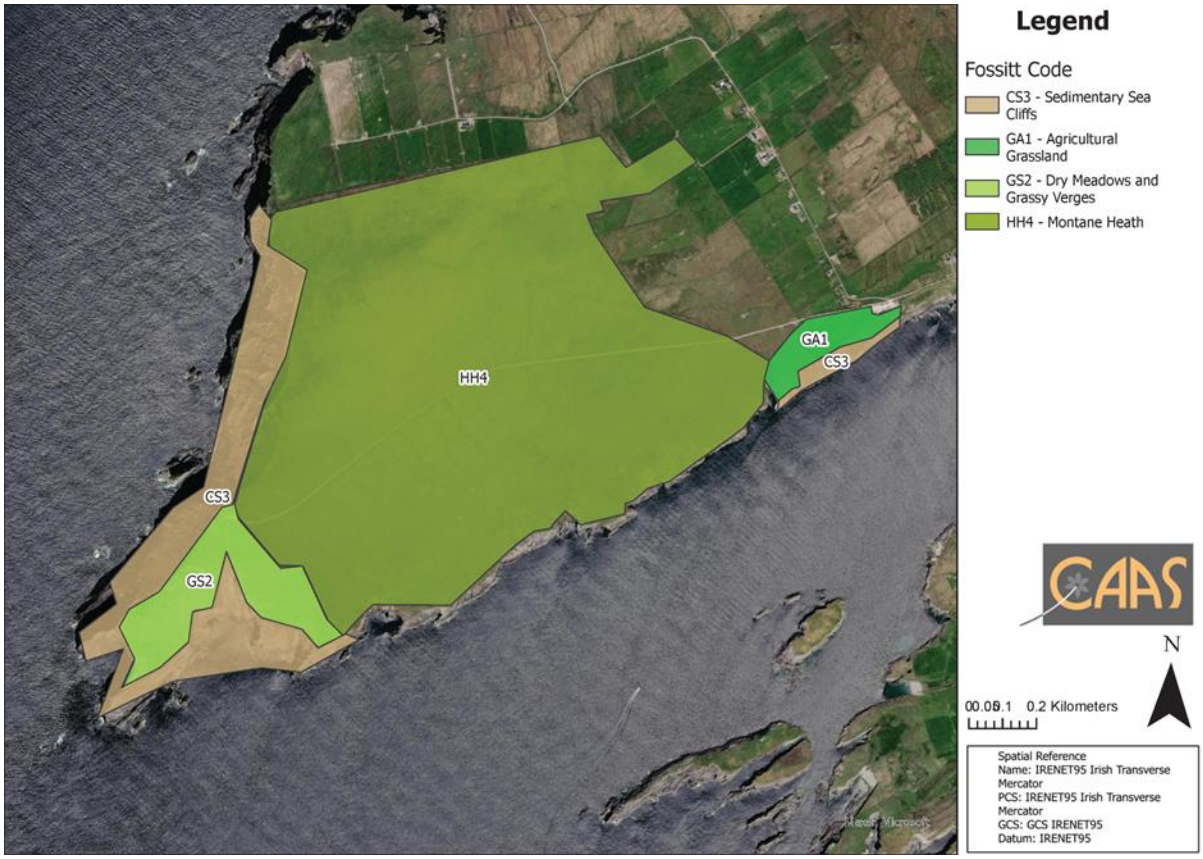


Figure 1.19 Habitats present at Bray Head

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 "1" which means the majority of the habitats have no evidence of any negative impact on the habitats or other ecological features. There were 3 recorded incidents of damage to habitats occurring off the marked paths on site. The causes of the damage were identified to be topography, substrata type and uncontrolled/disperse visitor movements.

1.6.4 Mammals on Site

No mammals were recorded on site during the field visit – however, the NBDC data shows there are a range of mammals within the receiving environment – particularly in the marine environment.

Mammals likely to occur on site include European rabbit, Irish hare, wood mouse and Irish Stoat.

Table 1.2 List of mammals that have been recorded at NBDC Hectad V37

Taxonomic group	Common name	Scientific name	Record count
Marine mammal	Bottle-nosed Dolphin	*Tursiops truncatus*	8
Marine mammal	Common Dolphin	*Delphinus delphis*	24
Marine mammal	Common Porpoise	*Phocoena phocoena*	20
Marine mammal	Common Seal	*Phoca vitulina*	11
Marine mammal	Cuvier's Beaked Whale	*Ziphius cavirostris*	2
Marine mammal	Grey Seal	*Halichoerus grypus*	38
Marine mammal	Humpback Whale	*Megaptera novaeangliae*	10
Marine mammal	Long-finned Pilot Whale	*Globicephala melas*	2
Marine mammal	Minke Whale	*Balaenoptera acutorostrata*	25
Marine mammal	Risso's Dolphin	*Grampus griseus*	6
Marine mammal	True's Beaked Whale	*Mesoplodon mirus*	1
Terrestrial mammal	Brown Long-eared Bat	*Plecotus auritus*	1
Terrestrial mammal	European Otter	*Lutra lutra*	2

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

Taxonomic group	Common name	Scientific name	Record count
Terrestrial mammal	European Rabbit	*Oryctolagus cuniculus*	4
Terrestrial mammal	Irish Hare	*Lepus timidus subsp. hibernicus*	6
Terrestrial mammal	Irish Stoat	*Mustela erminea subsp. hibernica*	1
Terrestrial mammal	Lesser Noctule	*Nyctalus leisleri*	1
Terrestrial mammal	Pipistrelle	*Pipistrellus pipistrellus*	1
Terrestrial mammal	Red Fox	*Vulpes vulpes*	1
Terrestrial mammal	Sika Deer	*Cervus nippon*	1
Terrestrial mammal	Soprano Pipistrelle	*Pipistrellus pygmaeus*	1
Terrestrial mammal	West European Hedgehog	*Erinaceus europaeus*	1
Terrestrial mammal	Wood Mouse	*Apodemus sylvaticus*	1

1.7 Recommendations

The site is well managed in most respects related to tourism; however, should visitor numbers increase - particularly along the upper trail through the heathland, there could be future issues for the site. Therefore, it is recommended that a boardwalk or stone pathway trail be explored as future options. These trail types could be similar to those at Sliabh Liag or the Spink walk - However, if trails are explored these should be one-way systems or wide enough to facilitate 2-way traffic - with signage explaining the importance of path fidelity. Similarly, the area around the watch tower could be developed to ensure resilience in the grass sward to trampling through the use of sub terranean membranes which support flexibility in the substrate to reduce trampling effect.

Additionally, a more carefully managed grazing regime should be employed for the site - with specific efforts put into ensuring the grazing regime increases flora diversity while supporting the niche requirements of the chough known to occur 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[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.