2018 Visitor Observation Study Results

EVIRONMENTAL SURVEYING AND MONITORING

OF THE

WILD ATLANTIC WAY
OPERATIONAL PROGRAMME

for: **Fáilte Ireland**
88-95 Amiens Street
Dublin 1

by: **CAAS Ltd.**
1st Floor
24-26 Ormond Quay Upper
Dublin 7

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Table of Contents

Table of Figures

List of Tables

Section 1 Introduction

1.1 Background

This report is one of a suite of reports which comprise the 2018 Wild Atlantic Way (WAW) environmental surveying and monitoring program. This suite of reports includes the following:

- The macro monitoring results;
- The visitor observation study results;
- The ecological study of visitor movement areas; and
- The further monitoring report.

These assessments are being undertaken as part of the obligations set out in the SEA and AA reports of the WAW operational program. The data collected aims to characterise the interactions between tourism and key environmental metrics along the WAW. This includes characterisation of typical activities and effects from individual tourists to broad scale effects such as waste water management.

These assessments are undertaken annually and the scope of works being undertaken is reviewed by the environmental working group which meets twice a year to discuss the monitoring program. The working group consists of stakeholders such as local authority representatives as well as representatives from agencies such as the EPA and NPWS.

The monitoring is intended to be a high level snap shot of the existing condition of sites along the WAW to inform the strategic planning of the WAW.

1.2 Introduction

This document details the results of the 2018 Visitor Observation Study carried out as part of the Environmental Surveying and Monitoring for the Wild Atlantic Way (WAW) Operational Programme. It has been undertaken by CAAS Ltd. on behalf of Fáilte Ireland.

The purpose of the monitoring strategy is to:

- Ensure that the effects of the implementation of the Operational Programme are understood and acted upon; and
- To ensure that there will be no delays in identifying existing or emerging activities that could threaten the environment.
- To ensure that any remedial actions or recommendations undertaken because of this monitoring report are to be competes in compliance with the Habitats Directive.

The Environmental Surveying and Monitoring of the WAW is intended to describe the existing conditions of sites with a view to:

- Contributing to Visitor Management Strategies;
- Contributing to future editions of Fáilte Ireland's WAW Operational Programmes and Guidelines;
- Identifying remedial action/works required;
- Assessing the capacity for future loadings; and
- Integrating site management with future European site Management Plans.

There are three separate components to the Monitoring Strategy:

1. The **Macro Monitoring** examines the state of the environment at gateway settlements on the Wild Atlantic Way looking at large scale regional and national indicators to help develop baseline data.

2. The **Visitor Observation Monitoring** (this report) forms the second stage, examining the types, spatial patterns and intensity of existing visitor activities at 15 Discovery Points. The site selection process varies each year and is informed by the members of the WAW Monitoring Committee (See Section 1.1); and
3. The **Ecological Surveys** are informed by the Visitor Monitoring results and examine the areas receiving maximum, moderate, minimum and no loading. A focus is placed on floras species, habitat features and overall system functionality. Regard is given to specific conservation objectives of relevant European sites.

1.3 Monitoring Site Selection Rational

Each year the rational for sites Selection is based on relevant input from members of the WAW Monitoring Committee:

- **2015**: 'Signature Discovery Points' were selected to be monitored as these was the flagship sites of the WAW brand[1]. These sites were expected to receive the largest number of visitors per year;
- **2016**: Beaches and islands- focus on sites with potential for disperse impacts was required;
- **2017**: Avian species as indicator species for ecological integrity. Attention was placed on Estuarine sites which have complex ecological processes present as well as sites within or adjacent to SPAs (SPAs); and
- **2018**: Revisit 'Signature Discovery Points' which were previously monitored in 2015. The rational for this was to identify if any changes had arisen from the original survey from the first year of monitoring and to present.

[1] Note that in 2015 the site referred to as Derrigimlagh Signature Discovery Point was monitored, however on review it has been discovered that this site is not the Derrighimalagh Discovery Point but a site further west at Alcock and Browne memorial. As a result, 14 signature discovery points are presented in this report. Derrigimlagh Signature Discovery Point will be monitored in 2019.

Table 1.1 Observation Study sites including European site Data and I-WeBs Data

Discovery Point Number	Name	County	GPS Coordinate	Survey Date (2018)	Relevant SAC	Distance (km)	Relevant SPA	Distance (km)
5	Malin Head	Donegal	55.381018-7.3738003	12th & 13th of July	North Inishowen Coast	Within	Malin Head SPA	3.5
13	Cionn Fhánada (Fanad Head)	Donegal	55.275617-7.6345941	14th & 15th of July	Ballyhoorisky Point To Fanad Head	0.06	Horn Head to Fanad Head SPA	Within
30	Sliabh Liag (Slieve League)	Donegal	54.627438-8.6847138	5th & 6th of July	Slieve League	Within	West Donegal Coast SPA	Within
37	Mullaghmore Head	Sligo	54.470555-8.4630775	7th & 8th of July	Bunduff Lough and Machair/Trawalua/Mullaghmore	Within	Donegal Bay SPA	15
47	Downpatrick Head	Mayo	54.322906-9.3459186	28th & 29th of June	Glenamoy Bog Complex	10	Killala Bay/Moy Estuary SPA	12
65	Keem Strand	Mayo	53.967177-10.195409	30th of June & 1st of July	Croaghaun Slievemore	Within	Bill's Rock	17
75	Killary Harbour	Galway	53.595759-9.7645229	21st & 22nd of June	Maumturk Mountains	0.02	Illaunonearaun SPA	24
101	Cliffs of Moher	Clare	52.971639-9.4260442	14th & 15th of June	Blackhead/Poulsallagh Complex	8	Cliffs of Moher SPA	0.02
109	Loop Head	Clare	52.560901-9.9304605	16th & 17th of June	Loop Head	Within	Loop Head SPA	0.1
124	Radharc na Mblascaoidi (Blaskets View)	Kerry	52.104973-10.455488	7th & 8th of June	Blasket Islands	0.05	Dingle Peninsula SPA	Within
129	Bray Head	Kerry	51.891958-10.396685	9th & 10th of June	Valencia Harbour/Portmagee Channel	0.2	Iveragh Peninsula SPA	Within
139	Dursey Sound	Cork	51.607717-10.158341	3rd & 4th of June	Kenmare River	0.06	Beara Peninsula	Within
149	Mizen Head	Cork	51.451562-9.8109117	1st & 2nd of June	Three Castle Head To Mizen Head	Within	Sheep's Head to Toe Head SPA	Within
159	Old Head of Kinsale	Cork	51.619701-8.542146	30th & 31st of June	Courtmacsherry Estuary	15	Old Head of Kinsale SPA	0.05

Section 2 Methodology

The Visitor Observation Survey methodology allows for the examination of patterns of visitor behaviour at sites along the Wild Atlantic Way (WAW).

Visitor Observation Survey:

- Tool used to collect systematic data about visitor behaviour at a site of interest.

Methodology:

- Watching and collecting information on how visitors interact with the site, as well as studying activities and flows of movement

Aim:

- To collect evidence of stay duration, activities undertaken, locations and direction of excursions from vehicles. Methodology is reinforced using an evidence-based model to identify the current state of the site and existing contributions before establishing the behaviour of visitors and the likely nature of impacts.

Effective methods for visitor observation have been designed and tested using Pilot Visitor Observation Studies at the Burren and Cliffs of Moher Geopark in Co. Clare. The studies were carried across a full spectrum of types of circumstances that range from small spatially-concentrated areas to large diffuse sites. The study sites had a range of existing management regimes that ranged from those that are complex and highly structured, private enterprises to the simpler smaller sites.

The method had a simple, replicable template that allowed easy identification patterns of visitor activity, movement and behaviour using a standardised visitor observation and tracking methodology for a range of types. The sites chosen for monitoring in 2018 are fifteen Discovery Points along the WAW. The Discovery Points ranged from having complex and highly structured existing management regimes to existing roadside laybys with little or no management.

2.1 Guidelines for Undertaking Visitor Observation Survey

The recommended time of year to undertake visitor observational surveys is from the beginning of tourist season to the end of July to allow enough time for undertaking of subsequent ecological surveys. Preparation of survey materials and site visits should be undertaken well in advance to increase efficiency of the monitoring programme during the tourist season.

A detailed outline of the methodology used can be found in Appendix I-III.

2.2 Development of Activities, Effects and their Categories[2]

A list of general activities and effects was developed to assist in the categorisation of visitor behaviour. While generic to all sites, the list is non-exhaustive and can be expanded depending on the individual site or emerging trends. Activities and effects are categorised depending on their severity to guide accurate reporting in an effective, efficient and easily replicated manner (see **Table 2.1** and **Table 2.2**).

Table 2.1 Description of the activity levels and codes used for the catagorising

Category 1 Low Level Activities	
Walking, running or cycling on paths, marked trails or hard surfaces	**LA1**
Walking, running, cycling or playing in mown grass, managed grassland or level sand	**LA2**
Sitting on benches, walls, mown grass, sand	**LA3**
Swimming, sailing, surfing, kayaking in water	**LA4**

[2] This classification system is specific to the visitor monitoring programme and any reference to effects or impacts within this report does not relate to similar terms within the Habitats Directive but to general activities and associated environmental effects as detailed in Appendix III of the Visitor monitoring report.

Resting reading, looking, picnicking, sightseeing, painting, photographing	**LA5**
Vehicular movement on roads and parking areas	**LA6**
Watching nature in hedges, woods, streams, pools and intertidal areas	**LA7**
Category 2 Medium Level Activities	
Powered movement through water	**MA1**
Any movement leaving an existing trail or marked path	**MA2**
Any movement leaving a trail through leafy vegetation	**MA3**
Any movement leaving a trail through woody vegetation	**MA4**
Climbing on walls, loose stones, sand, soil etc.	**MA5**
Fishing	**MA6**
Category 3 High-level Activities	
Walking through wets/muddy soil	**HA1**
Scrambling on steep or loose slopes	**HA2**
Off road vehicular movement	**HA3**
Disturbance of wildlife	**HA4**
Deliberate building or moving or knocking site materials – parts of monuments, walls, stones, sand etc.	**HA5**
Picking herbaceous vegetation	**HA6**

Table 2.2 Description of effect levels and codes used for catagorising

Category 1 Low Impact Effects	
No identifiable effect	**LIE1**
Desire Lines or Trails visible on grass and leafy vegetation	**LIE2**
Temporary disturbance (including chasing and feeding) of insects, fish, amphibians, reptiles, birds and mammals	**LIE3**
Temporary change of character – due to the appearance or nature of activities (noise, crowds etc.)	**LIE4**
General/light littering	**LIE5**
Category 2 Medium Impact Effects	
Desire lines or tracks visible outside of existing trail or marked path	**MIE1**
Trampling of herbaceous vegetation	**MIE2**
Damage to woody vegetation	**MIE3**
Incidentally moving or knocking site materials – parts of monuments, walls, stones, sand, rooted vegetation, flora, fauna etc	**MIE4**
Addition/alteration of site features, transient emissions, noise	**MIE5**
Transient disturbance, emissions, noise	**MIE6**
Disturbance to wildlife	**MIE7**
Category 3 High Severe Impact Effects	
Direct interference with site material – parts of monuments, walls, stones, sand, rooted vegetation, flora, fauna etc	**SIE1**
Removal of materials - parts of monuments, walls, stones, sand, rooted vegetation, flora, fauna etc	**SIE2**
Vandalism or graffiti	**SIE3**
Destruction of Structures, vegetation or fauna	**SIE4**
Heavy littering or dumping quantities of waste	**SIE5**
Burning materials or lighting a fire	**SIE6**
Injuring, killing or taking wildlife	**SIE7**

2.3 Visitor Movement Zones

The collation of the data including the tracking of onsite movement by visitors will result in the identification of core, secondary and tertiary movement zones. The initial sites chosen for monitoring are the fifteen candidate Signature Discovery Points along the Wild Atlantic Way.

The candidate Signature Discovery Points range from having complex and highly structured existing management regimes to existing roadside laybys with little or no management.

Core Zone	Existing car parks, paved areas, viewing platforms, marked pathways, trails, tracks and managed grassland and areas where pathways, trails or roads exist. The majority of visitors remain in these zones.
Secondary Zone	Areas outside of existing car park, paved areas, marked pathways, trails, tracks and managed grassland. visitors are likely to traffic areas of grassland (in some cases farmland grazed by sheep or cattle), heath or bare rock, usually to get a better view of site attractions or to access trails at the site.
Tertiary Zone	Areas where no car park, paved areas, marked pathways, trails, tracks and managed grassland are identifiable and beyond the immediate boundaries of the site.

Section 3 Presentation and Analysis of Results

This section of the report is an account of the site visits to each of the Discovery Points selected for 2018. The surveys were carried out from a period between the 28th of May and the 15th of July 2018. For optimum results each site was surveyed at the same time on each survey day, each site was surveyed over a two-day period. Surveyors were on site at 08.30 and concluded observations at 17.30, spending a duration of approximately 9 hours at each site. Appendix IV and Appendix V contains a breakdown of results from each site and photographs of each Discovery Points monitored.

Old Head of Kinsale

EVIRONMENTAL SURVEYING AND MONITORING RESULTS

3.1 Old Head of Kinsale

Site Name: Old Head of Kinsale	**Date Surveyed:** 30th – 31st May
County: Cork	**Landscape Type:** Rocky Shore/peat/grassland in peninsular coastal context
No. of Visitors: 547	**Average Duration spent on site:** 00:20:00
Site Description: Old Head of Kinsale is a headland situated south of the town of Kinsale in Co. Cork. It is located adjacent to the Old Head of Kinsale SPA. The site is designated as an SPA for the protection of endangered species of birds listed in the Birds Directive (Council Directive 2009/147/EC). Old Head of Kinsale is privately owned with an onsite golf links and accommodation. The golf links and the lighthouse are inaccessible to visitors. The Signature Discovery Point constitutes a carpark located south of the Old Head Signal Tower which allows access to trails and walkways along the clifftop of the publicly accessible headland. The site is of historical interest as the RMS Lusitania sank off the coast of Old Head in the early 20th Century. The Old Head Signal Tower has been refurbished and was opened in May 2015. It has a car park and is free for visitors to enter. The Old Head Signal Tower site consists of road access, parking for 18 cars and 2 buses, a flag and ball signalling system with a mast 15 metres high, and the signal tower which is open to visitors. **Upgrades to Site:** Proposed works to the site in 2015 included a Lusitania memorial garden. Since the previous survey works have been completed, this development is located within the site boundary and is a big attraction for toursits.	

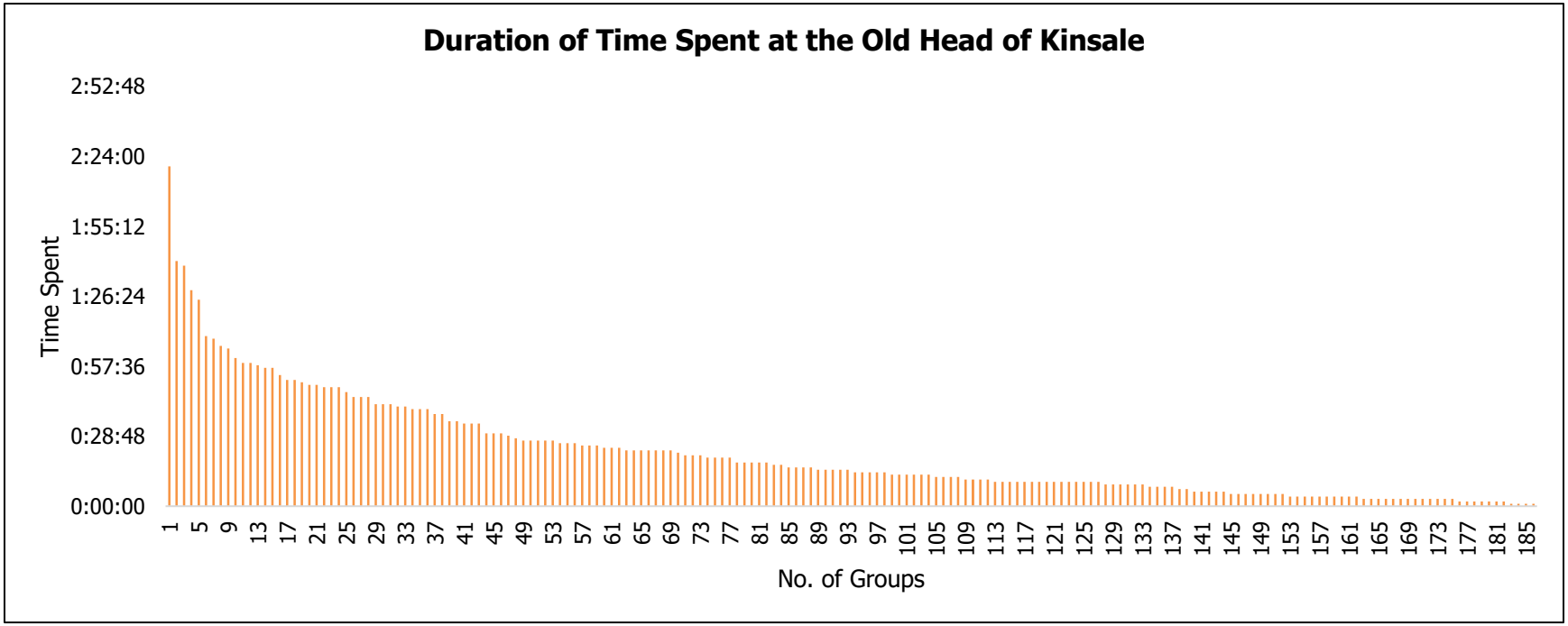


Figure 3.1 Duration of Time spent at the Old Head of Kinsale

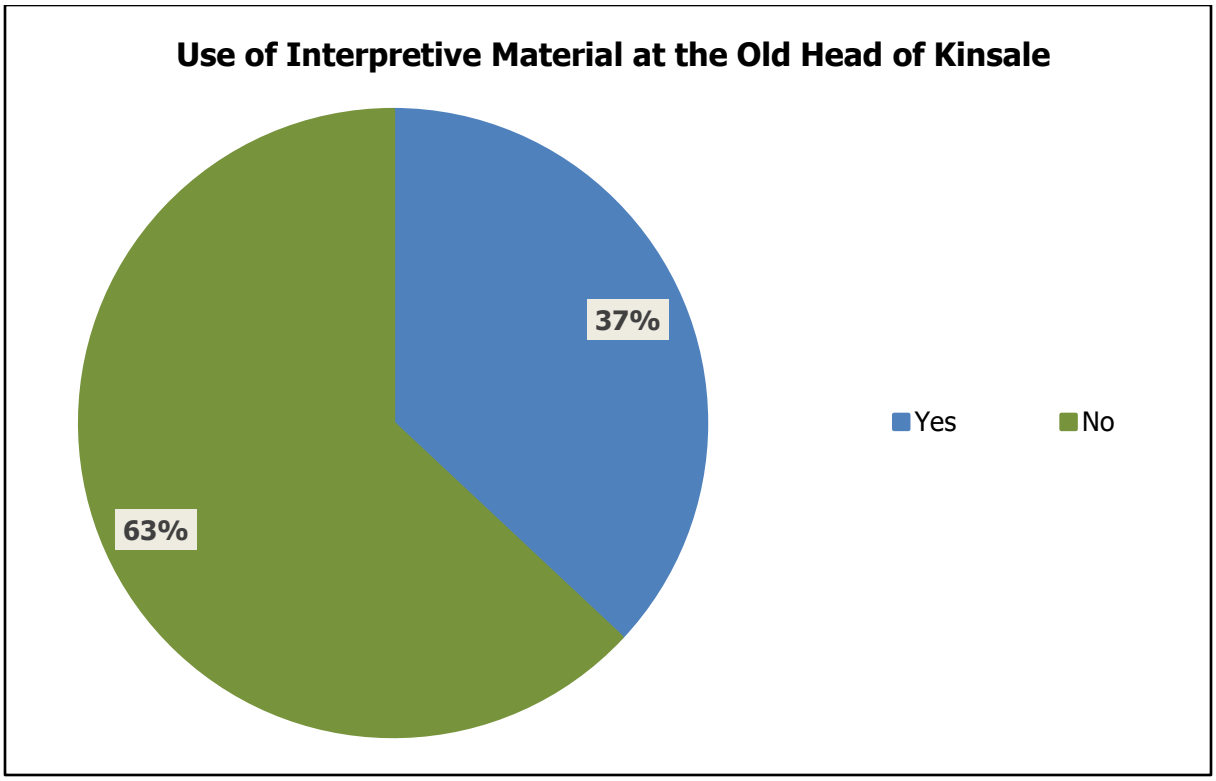


Figure 3.2 Use of Interpretive Material at Old Head of Kinsale

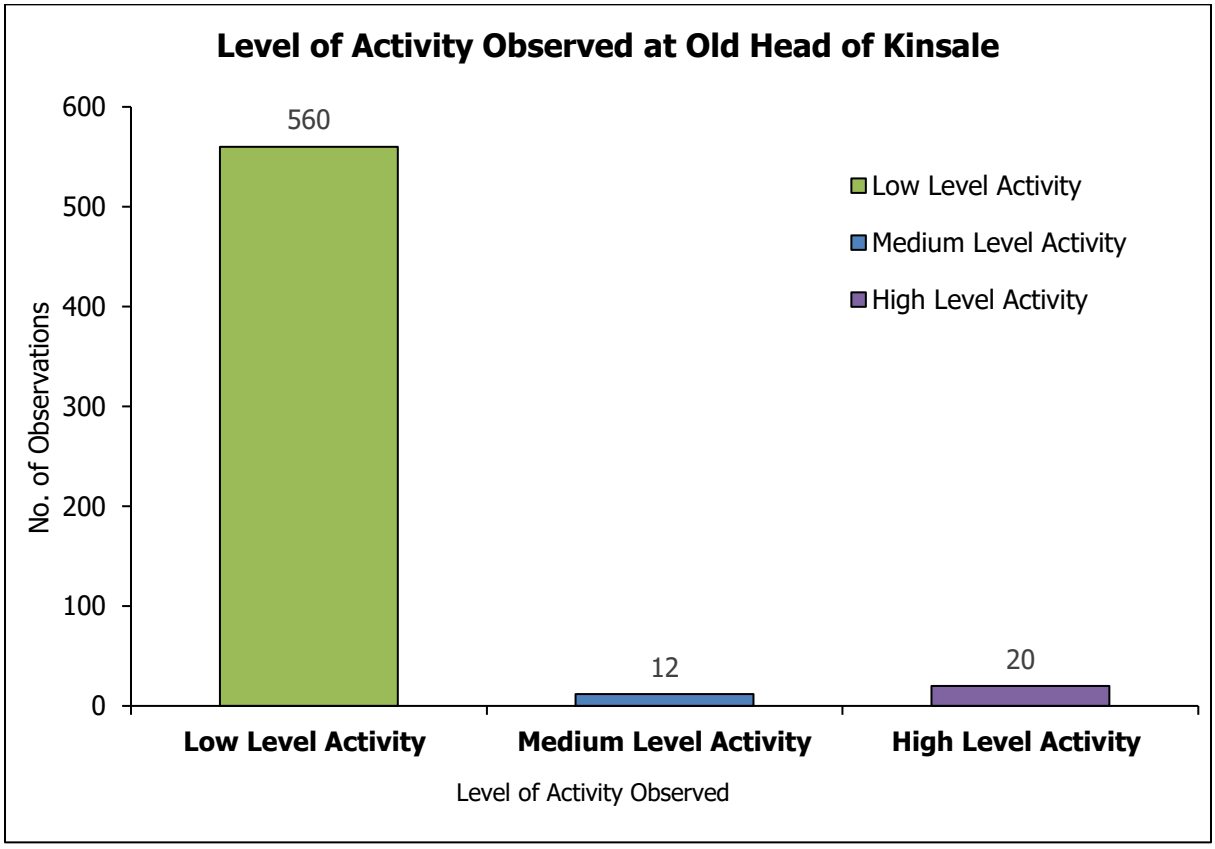


Figure 3.3 Level of Activity Observed at Old Head of Kinsale

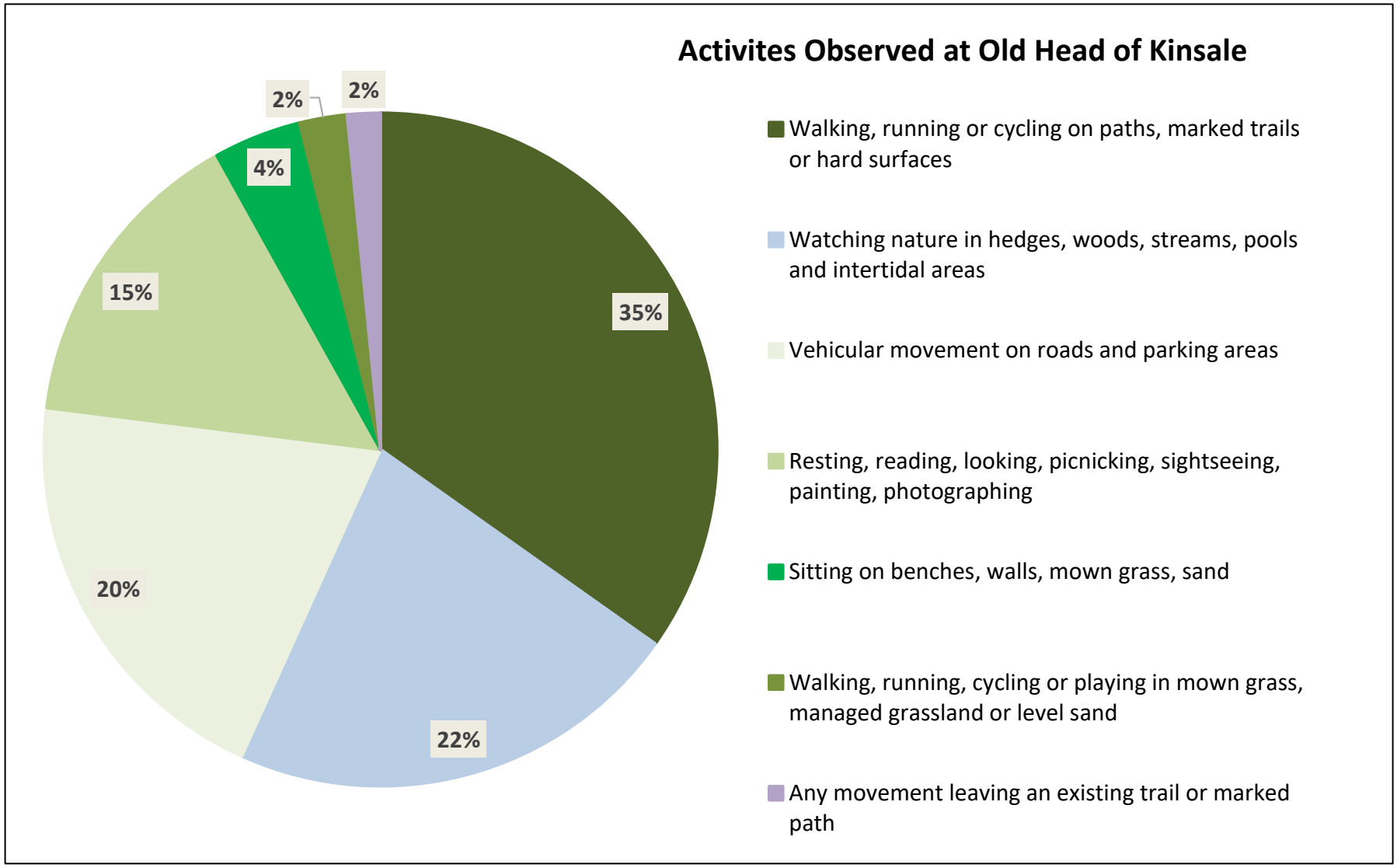


Figure 3.4 Range of Activities Observed at Old Head of Kinsale

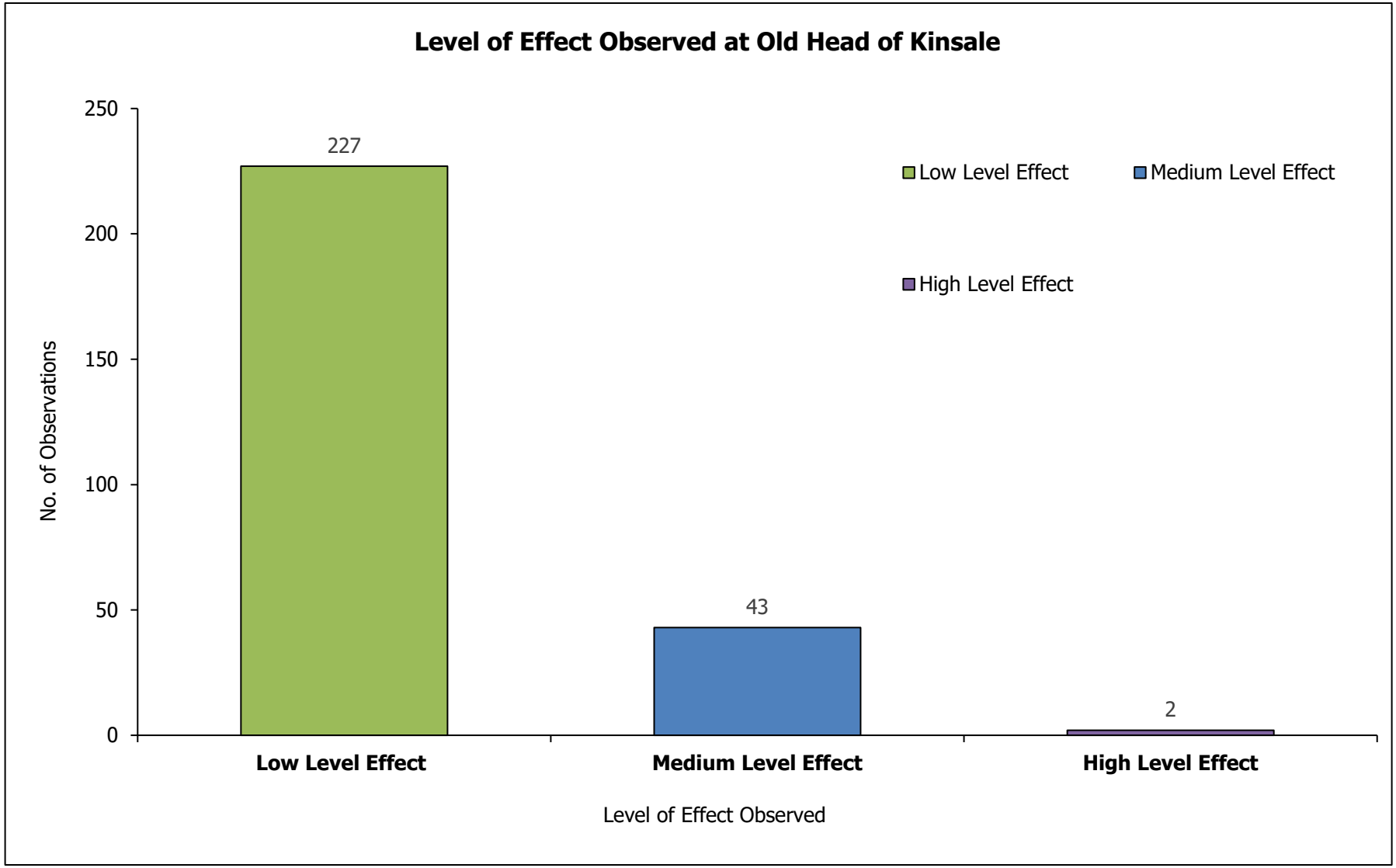


Figure 3.5 Level of Impact Observed at Old Head of Kinsale

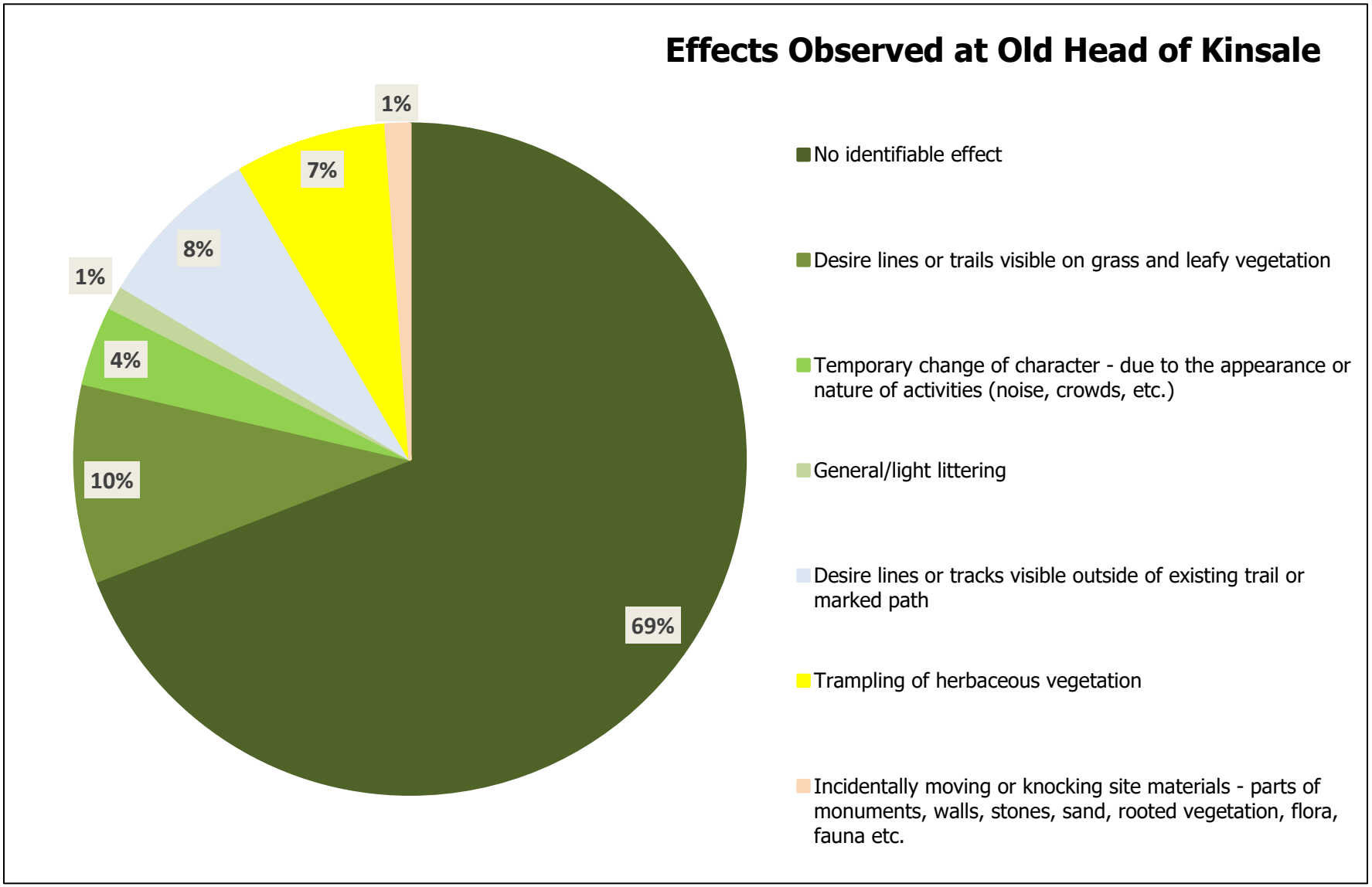


Figure 3.6 Impacts Observed at Old Head of Kinsale

Table 3.1 Visitor Movement Zones Descriptions

Core Zone	Existing car parks, paved areas, viewing platforms, marked pathways, trails, tracks and managed grassland and areas where pathways, trails or roads exist. The majority of visitors remain in these zones.
Secondary Zone	Areas outside of existing car park, paved areas, marked pathways, trails, tracks and managed grassland. visitors are likely to traffic areas of grassland (in some cases farmland grazed by sheep or cattle), heath or bare rock, usually to get a better view of site attractions or to access trails at the site.
Tertiary Zone	Areas where no car park, paved areas, marked pathways, trails, tracks and managed grassland are identifiable and beyond the immediate boundaries of the site.

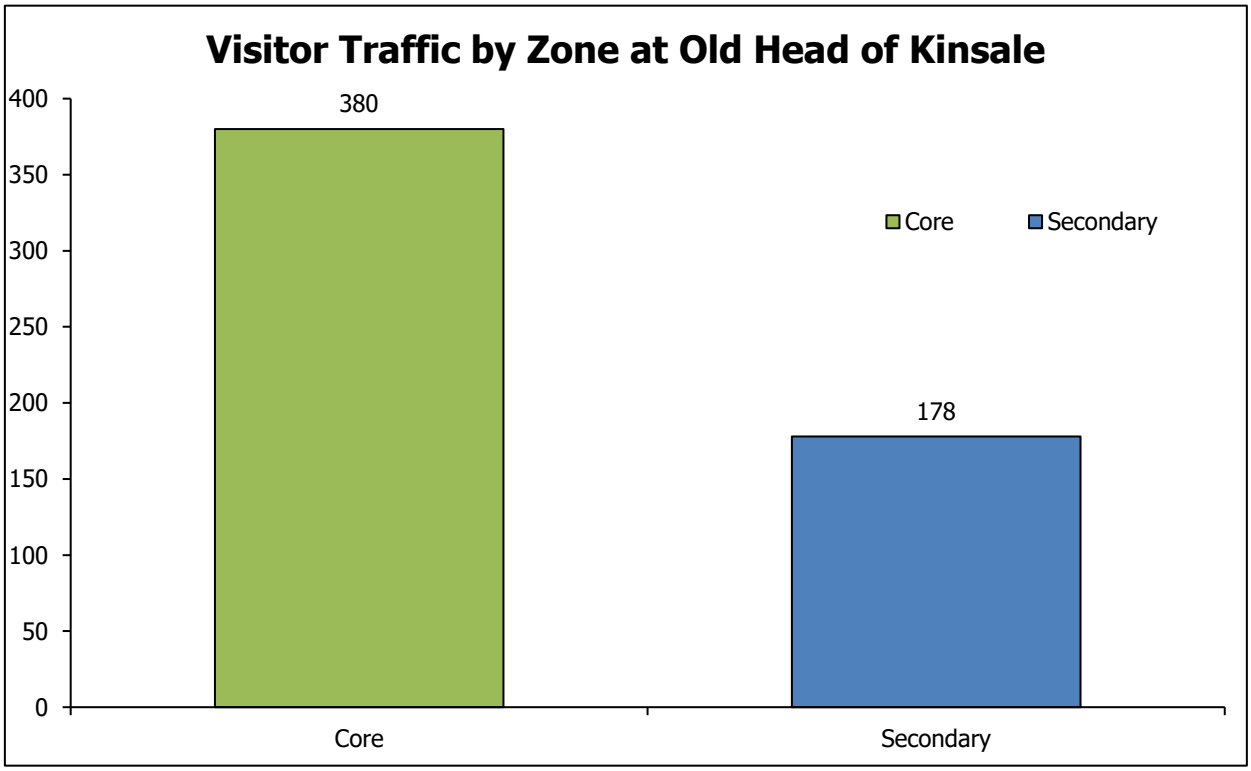


Figure 3.7 Zones trafficked by visitors at Old Head of Kinsale

3.1.1 Recommendations and Analysis of Results and Visitor Movement Patterns

Visitors at the Old Head of Kinsale trafficked the Core zone 380 times and the Secondary zone 178 times. Less than 32% of all visitor movements observed were within the secondary zone.

70% of visitors resulted in no identifiable effect on the site. Good visitor management is in place at Old head which contributes towards good visitor behaviour, in turn results in fewer effects.

12% of visitors had medium level impacts on the site. This resulted from visitors leaving paved areas walking through long grass leaving desire lines; visitors were also observed to throw litter while taking photographs. There were few incidences of High-level impacts recorded, 0.9% accounted for high-level effects caused by one child throwing stones.

Image 3.1 Visitor Movement Zones at Old Head of Kinsale

Mizen Head

EVIRONMENTAL SURVEYING AND MONITORING RESULTS

3.2 Mizen Head

Site Name: Mizen Head	**Date Surveyed:** 1st & 2nd June 2018
County: Cork	**Landscape Type:** Rocky Shore/peat/grassland in peninsular coastal context
Total no. of People: 967	**Average Duration of visitors on site:** 1:22:40
Site Description: Located just 8km from Goleen, Mizen Head is a spellbinding place. As Ireland's most south-westerly point, it is home to a signal station that was built to save lives off the rocky shoreline. It was completed in 1910 and later became the home of Ireland's very first radio beacon in 1931. Here, inside the Keeper's House, you'll find a dynamic visitor centre that contains a café and gift shop. It also has a navigation aids simulator, displays the geology of the region, tells the story of Marconi in Crookhaven and discusses the lighthouse keepers' hobbies. Once your tour of the visitor centre is complete, head outside and follow the path down the famous 99 steps and over the arched bridge that looks down upon the gorge. This route will take you to the signal station, which is open to the public. Along the way, there is stunning scenery to be admired, with the possibility of spotting seals, kittiwakes, gannets and choughs, not to mention minke, fin and humpback wales. **Upgrades to Site:** There have been no site upgrades to Mizen Head Discovery Point since 2015	

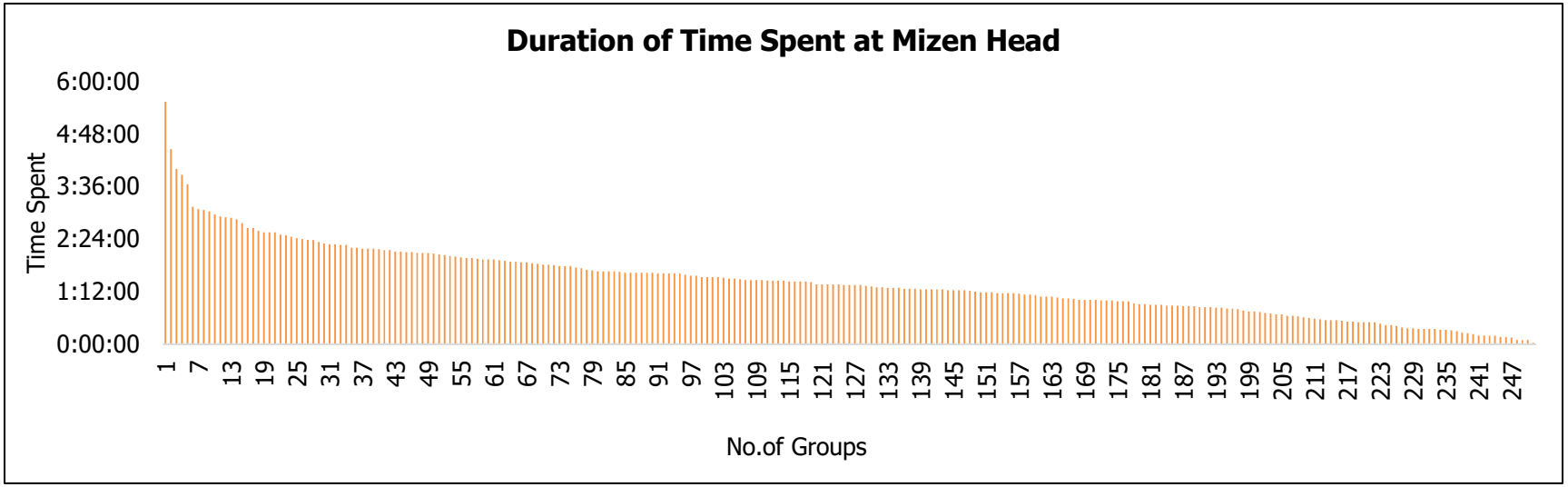


Figure 3.8 Duration of time spent at Mizen Head[3]

[3] This graph represents 276 of the 367 groups observed during the survey. 91 groups were not recorded to have a departure time.

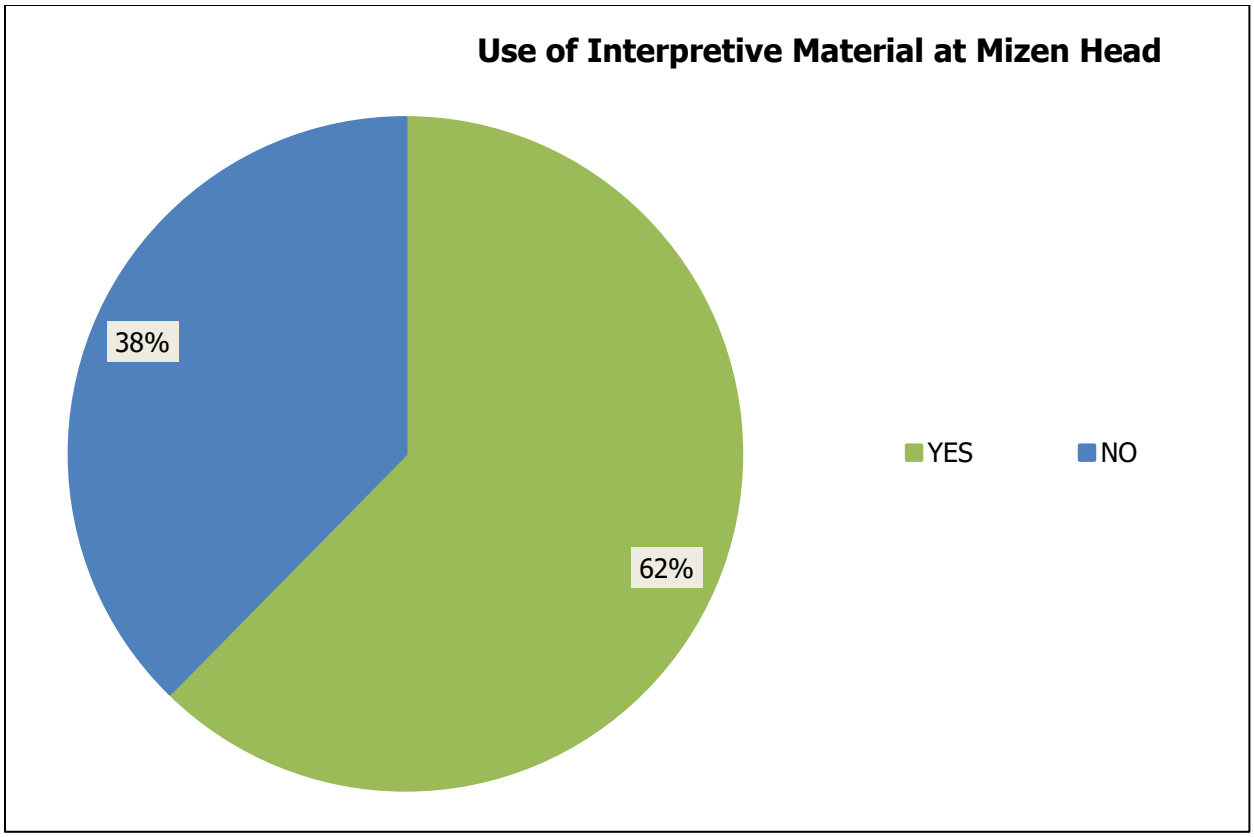


Figure 3.9 Use of Interpretive Material at Mizen Head

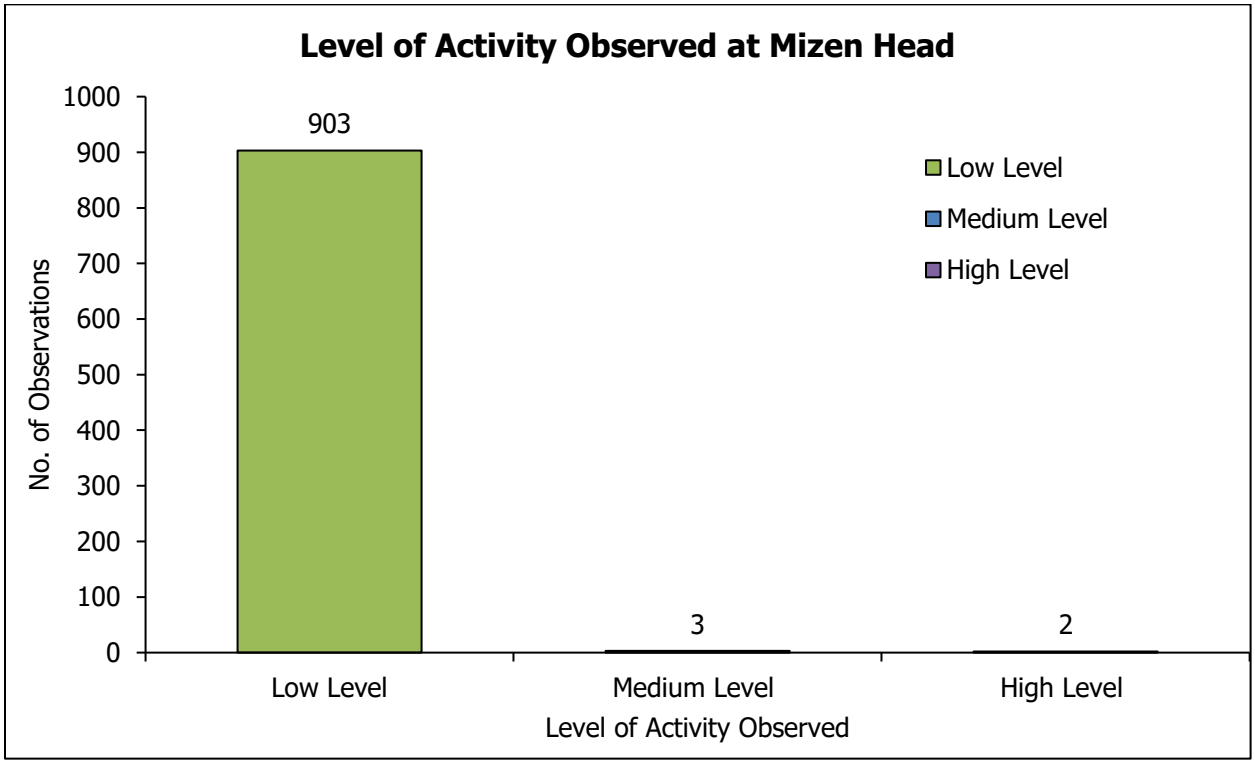


Figure 3.10 Level of Activity Observed at Mizen Head

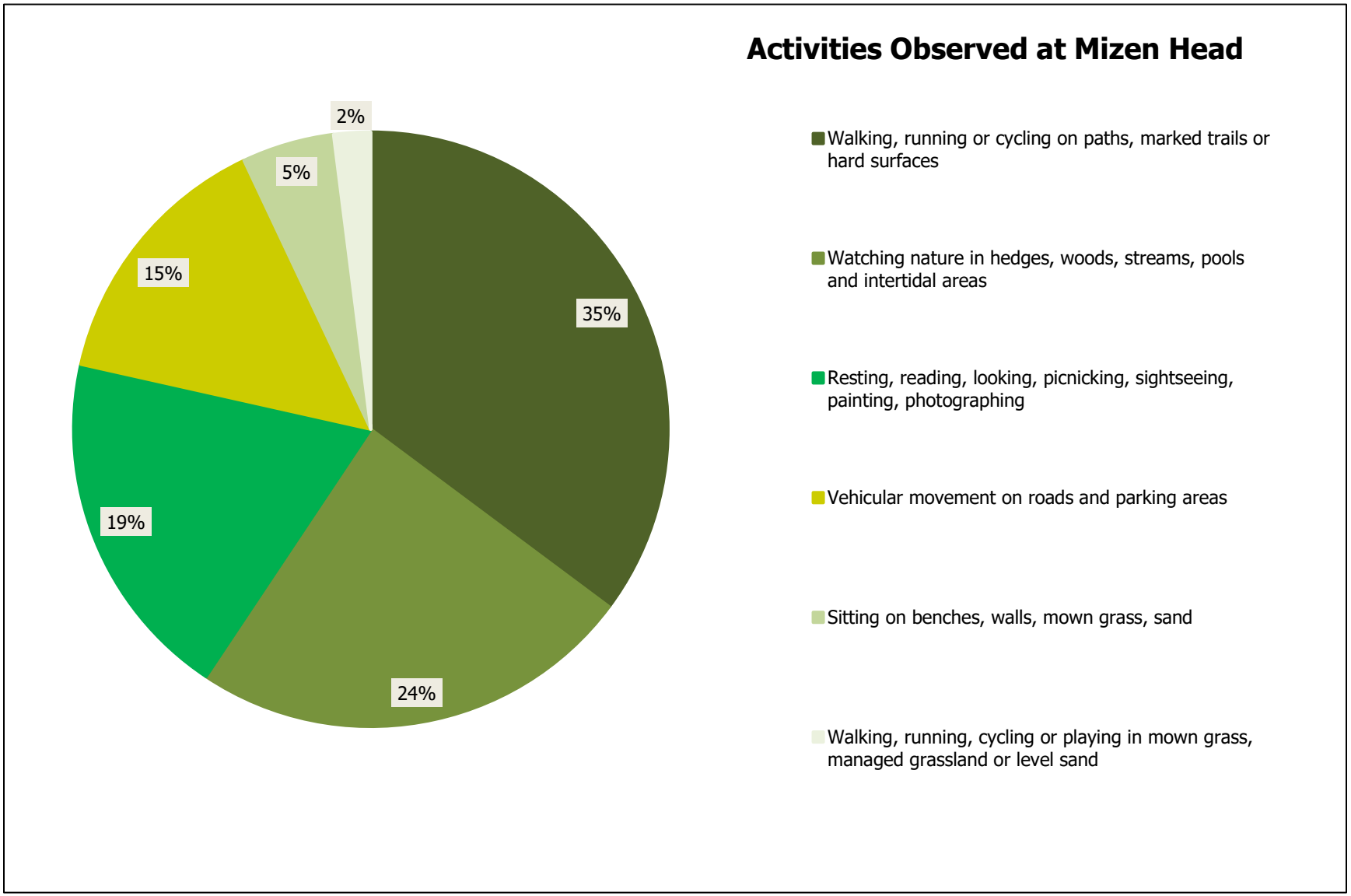


Figure 3.11 Range of Activities Observed at Mizen Head

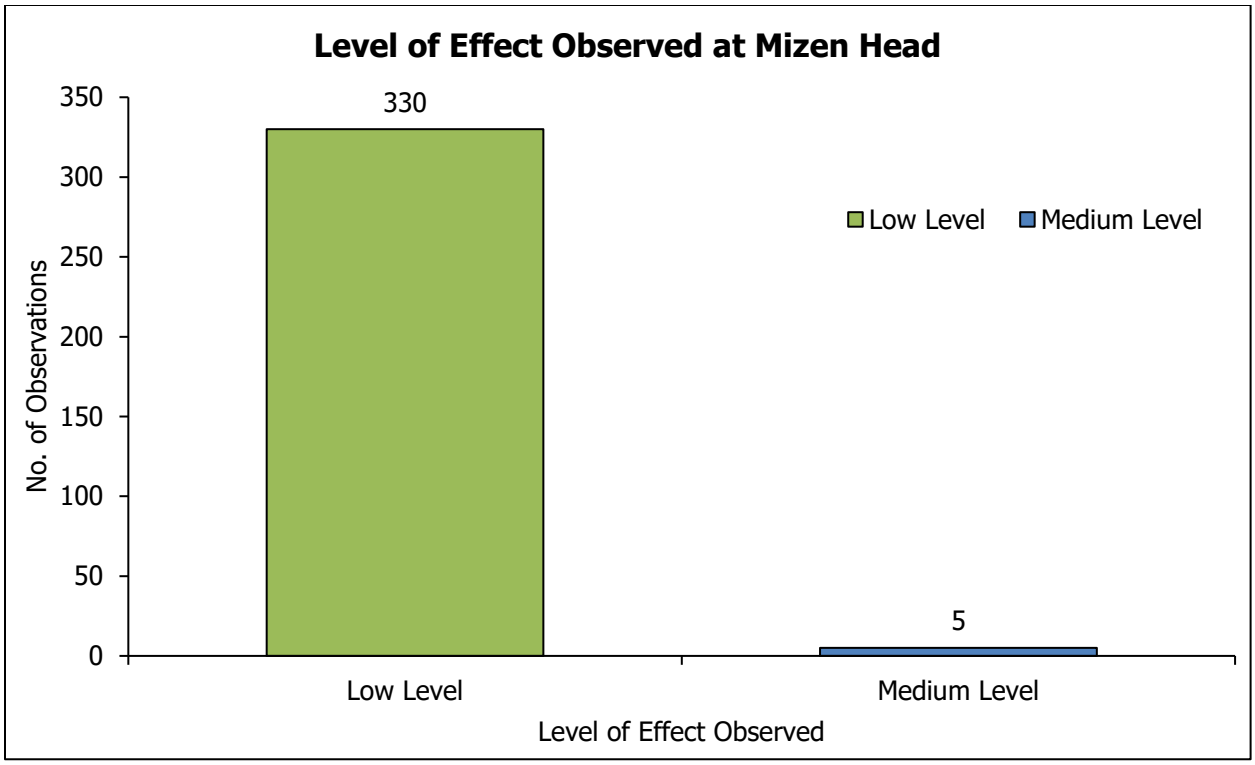


Figure 3.12 Level of Impacts observed at Mizen Head

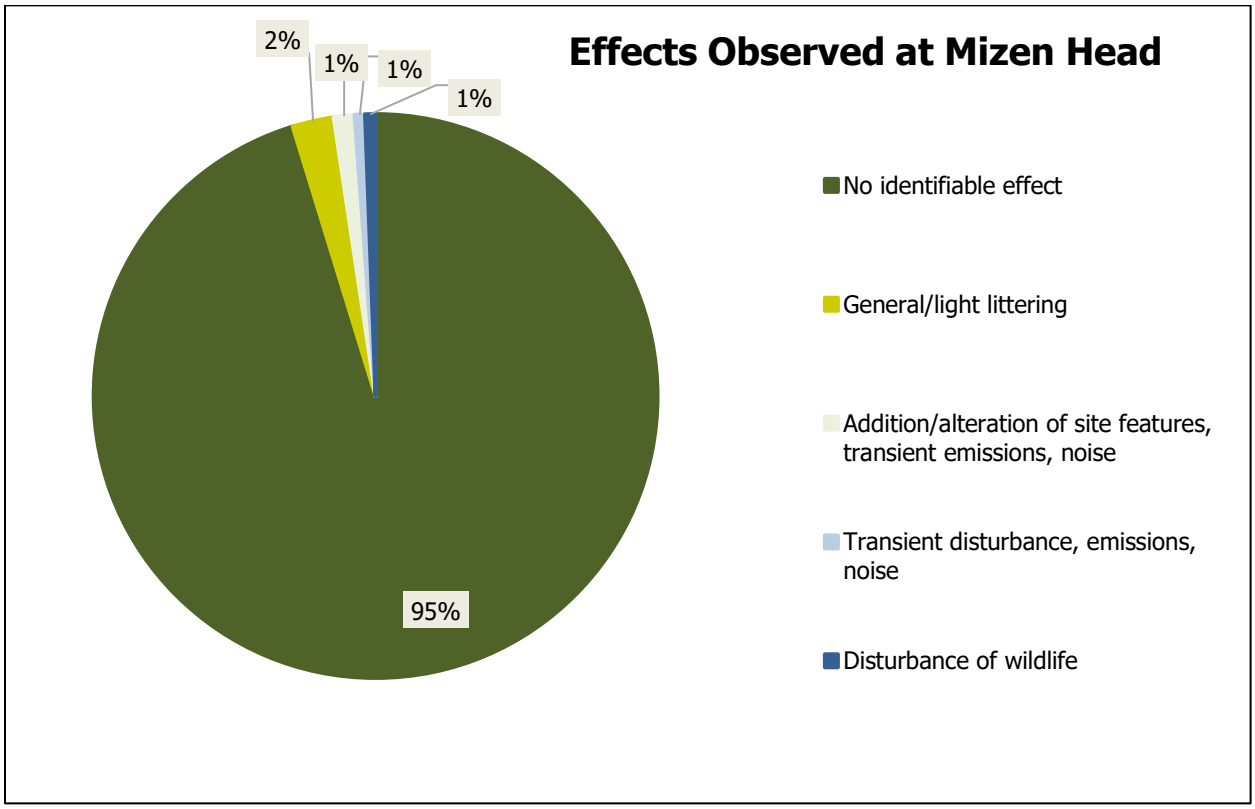


Figure 3.13 Impacts Observed at Mizen Head

Table 3.2 Visitor Movement Zones Descriptions

Core Zone	Existing car parks, paved areas, viewing platforms, marked pathways, trails, tracks and managed grassland and areas where pathways, trails or roads exist. The majority of visitors remain in these zones.
Secondary Zone	Areas outside of existing car park, paved areas, marked pathways, trails, tracks and managed grassland. visitors are likely to traffic areas of grassland (in some cases farmland grazed by sheep or cattle), heath or bare rock, usually to get a better view of site attractions or to access trails at the site.
Tertiary Zone	Areas where no car park, paved areas, marked pathways, trails, tracks and managed grassland are identifiable and beyond the immediate boundaries of the site.

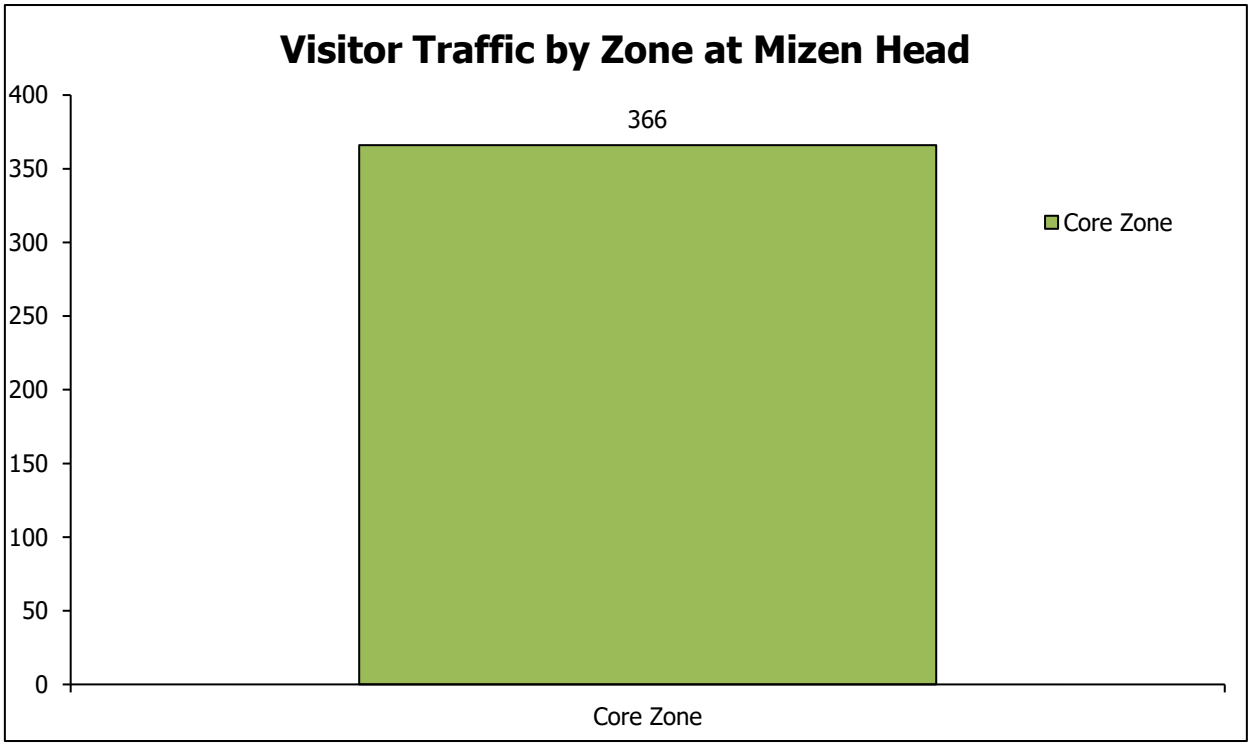


Figure 3.14 Zones trafficked by visitors at Mizen Head

3.2.1 Recommendations and Analysis of Results and Visitor Movement Patterns

The Core zone at Mizen head was the predominant area trafficked by visitors during the site visit (366 times).

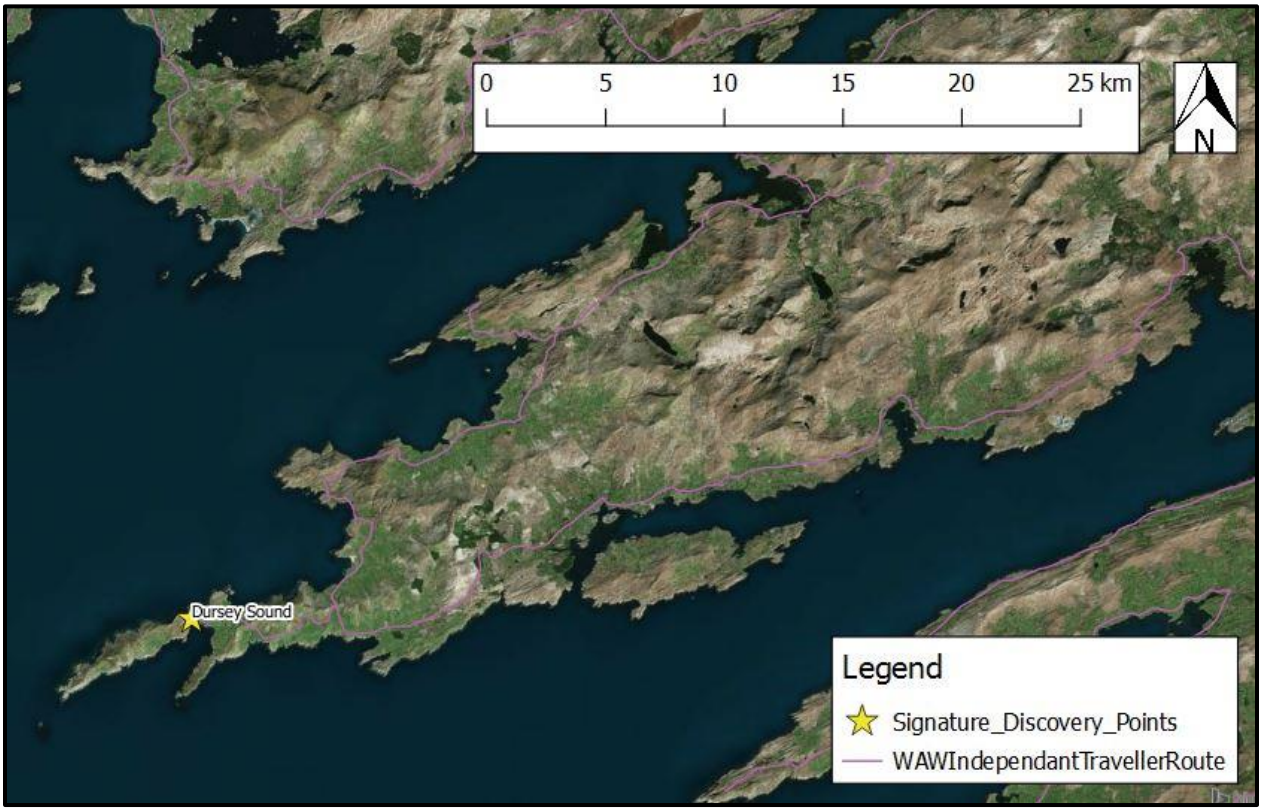
95% of visitors had no identifiable effect on the site. 5% of visitors were observed to have medium level effects on the site. This resulted from a group entering a private field to pick a large quantity of flowers. One visitor was also observed to fly a drone close to the cliff side, disturbing nesting birds.

It is apparent that the high-level of management at the site contributes towards good visitor behavior which resulted in fewer effects.

Image 3.2 Visitor Movement Zones at Mizen Head

Dursey Sound

EVIRONMENTAL SURVEYING AND MONITORING RESULTS



3.3 Dursey Sound (Previously named Garnish Point)

Site Name: Dursey Sound (Control site)	**Date Surveyed:** 3rd & 4th June
County: Cork	**Landscape Type:** Rocky Shore/Peat/grassland in a peninsular context
Total no. of People: 289	**Average Duration of visitors on site:** 00:20:43
Site Description: Dursey Sound discovery point is located opposite the famous Dursey Sound; it is situated about 35 metres above sea level. Dursey Island is separated from the mainland by a narrow sound known for its strong tides. Dursey Island is accessed by Irelands only cable car, it runs about 250m above sea level. There is a car park, ticket office and toilet facilities at this point, as well as interpretative signs. Dursey Sound is located within the Kenmare River SAC and the Beara Peninsula SPA. The site is an SAC for several habitats and species listed on Annex I and II of the Habitats Directive. **Upgrades to Site:** There have been no site upgrades at Dursey Sound Discovery Point since 2015.	

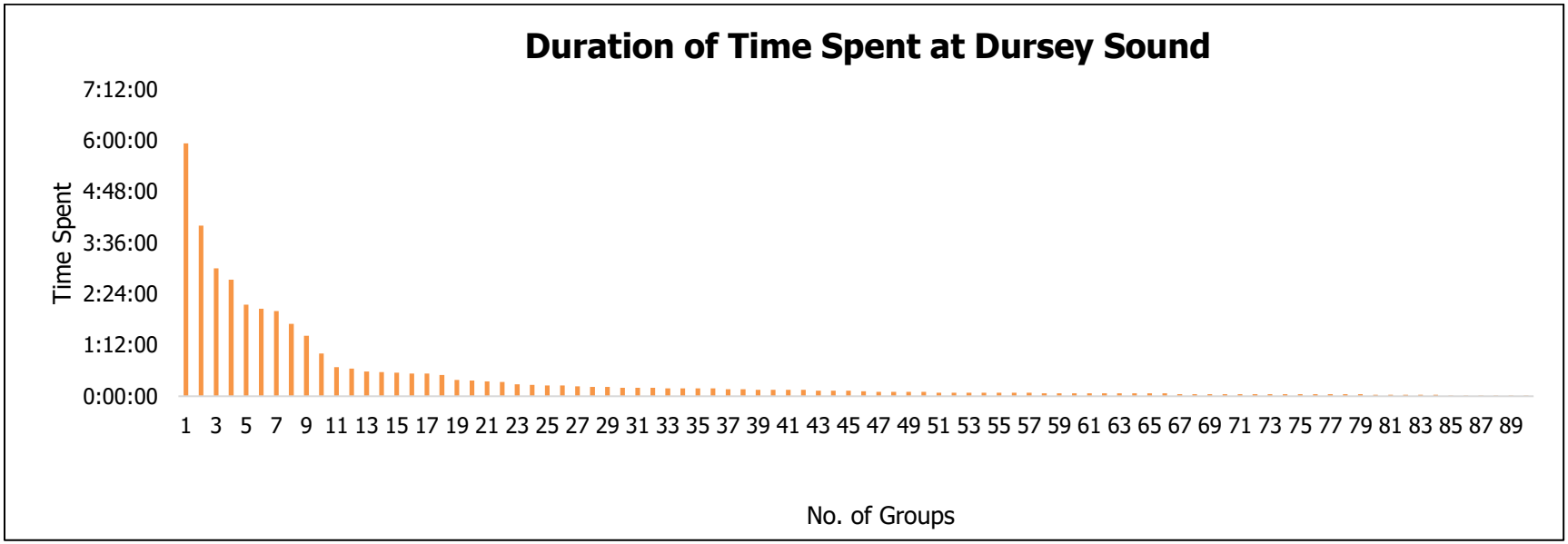


Figure 3.15 Duration Spent at Dursey Sound[4]

[4] The graph represents 91 of the 136 groups observed of which 69 groups remained on site for less than 20 minutes; 45 of the groups observed had no departure time recorded.

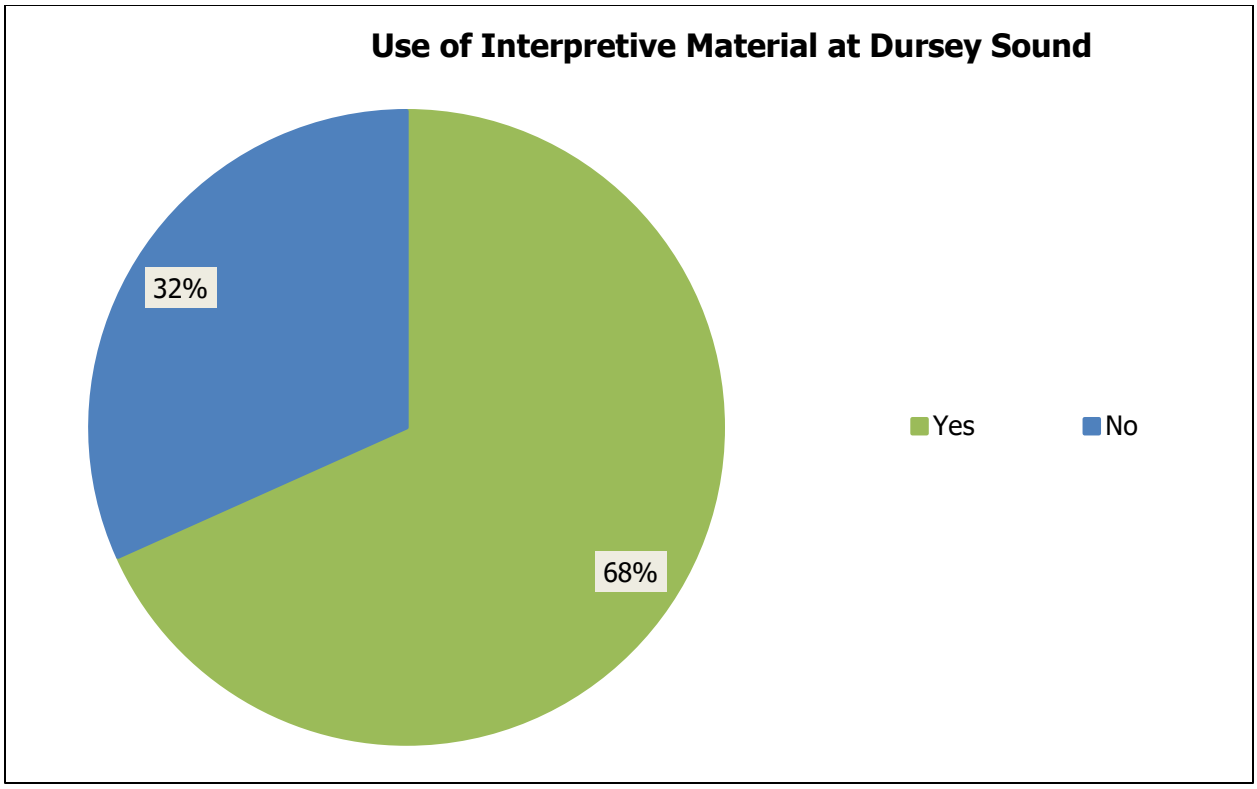


Figure 3.16 Use of Interpretive Material at Dursey Sound

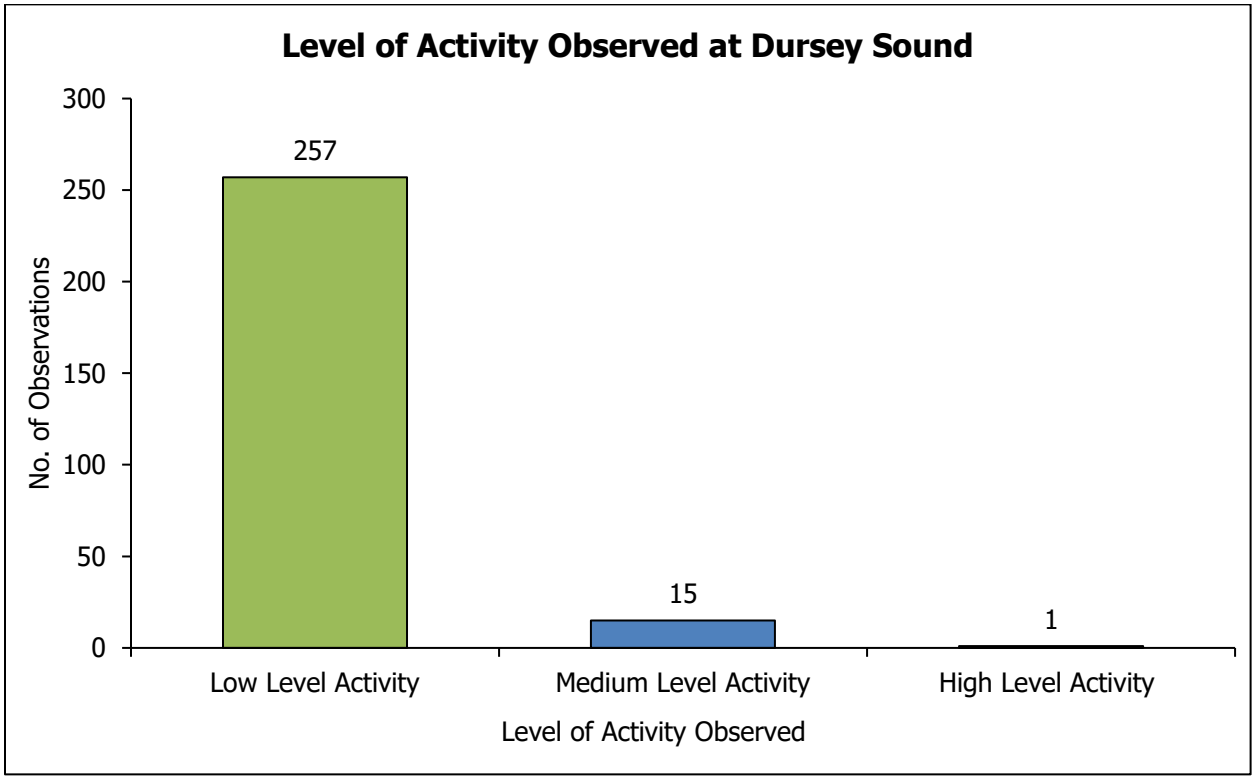


Figure 3.17 Level of Activity Observed at Dursey Sound

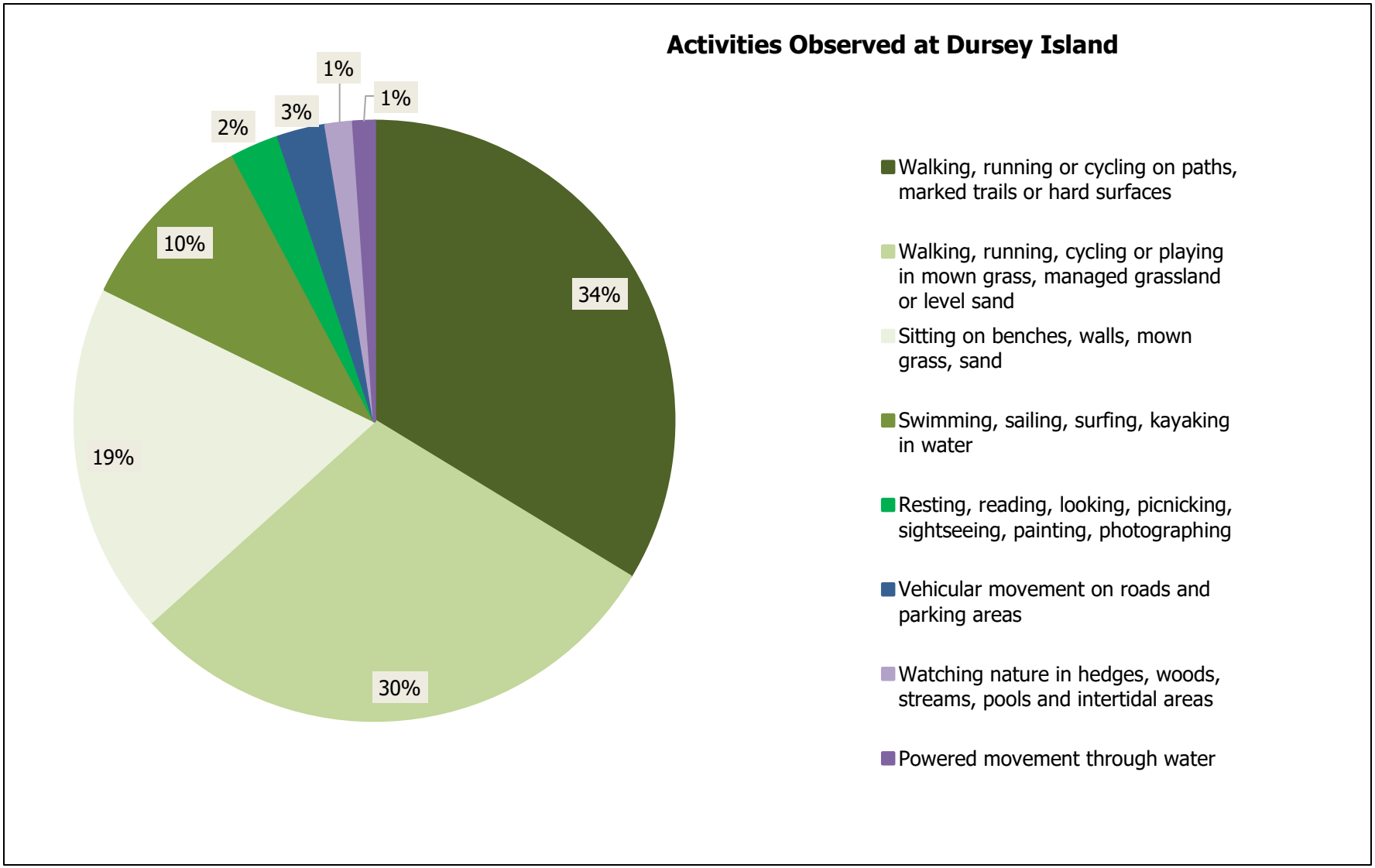


Figure 3.18 Range of Activities Observed at Dursey Sound

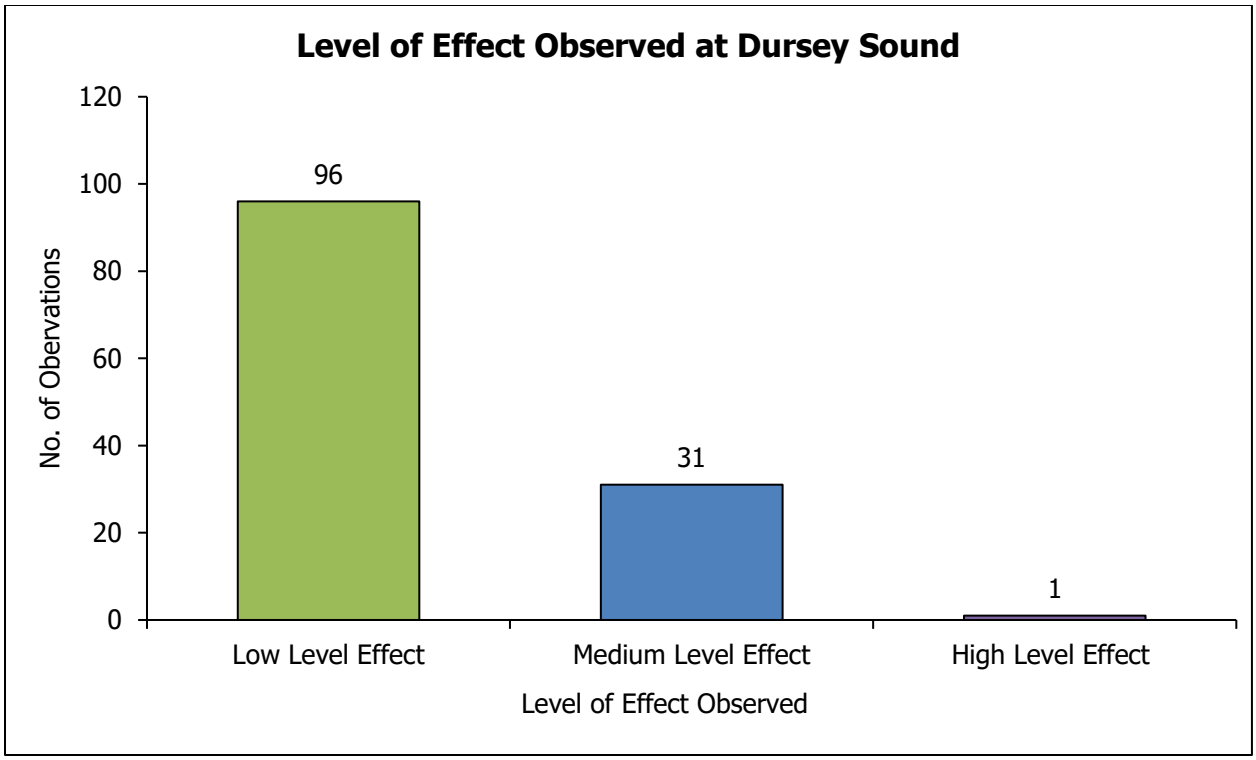


Figure 3.19 Level of Impact Observed at Dursey Sound

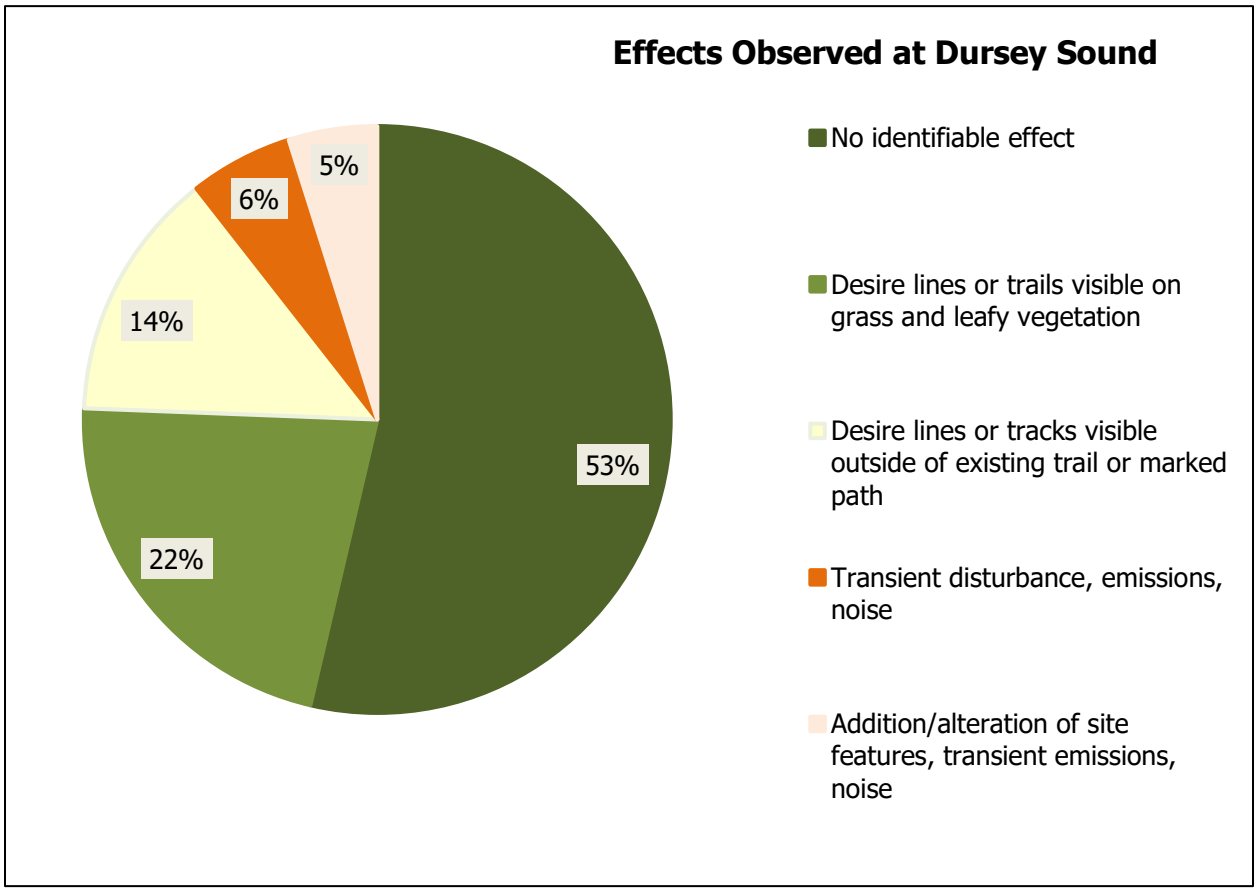


Figure 3.20 Impacts Observed at Dursey Sound

Table 3.3 Visitor Movement Zones Descriptions

Core Zone	Existing car parks, paved areas, viewing platforms, marked pathways, trails, tracks and managed grassland and areas where pathways, trails or roads exist. The majority of visitors remain in these zones.
Secondary Zone	Areas outside of existing car park, paved areas, marked pathways, trails, tracks and managed grassland. visitors are likely to traffic areas of grassland (in some cases farmland grazed by sheep or cattle), heath or bare rock, usually to get a better view of site attractions or to access trails at the site.
Tertiary Zone	Areas where no car park, paved areas, marked pathways, trails, tracks and managed grassland are identifiable and beyond the immediate boundaries of the site.

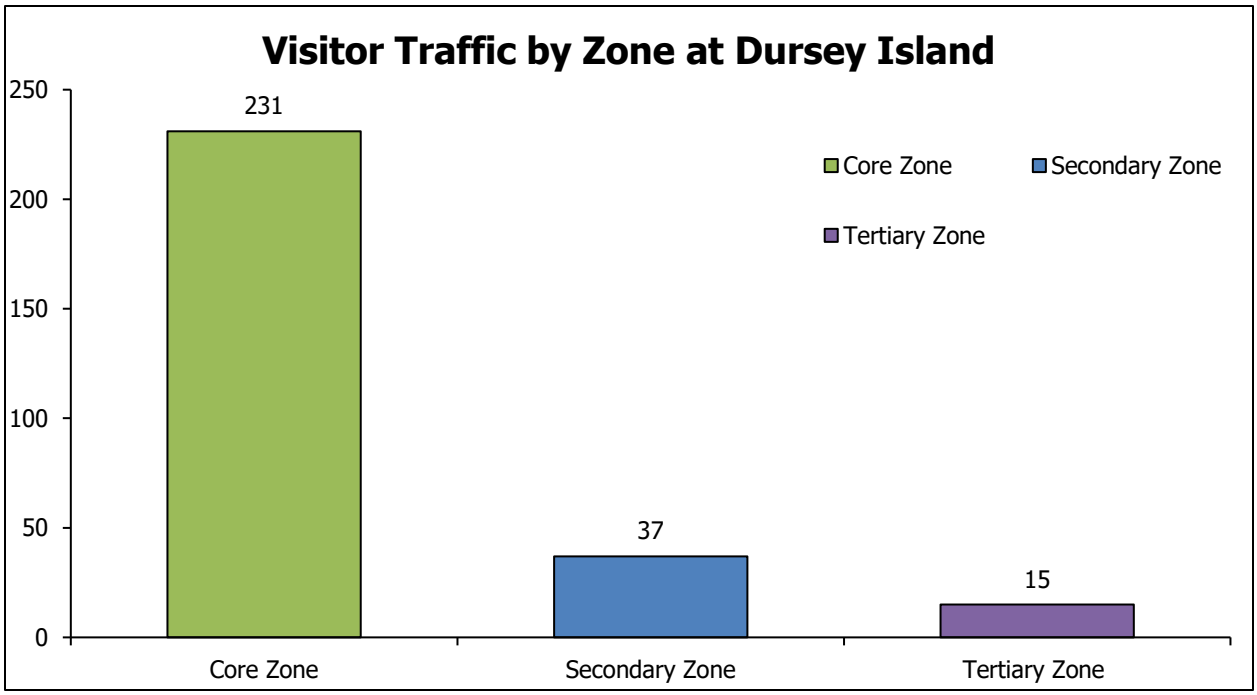


Figure 3.21 Zones trafficked by visitors at Dursey Sound

3.3.1 Analysis of Results and Visitor Movement Patterns

Visitor movements were recorded in the Core, Secondary and Tertiary zones at Dursey Sound. The core zone was the predominant area (231 times; over 81% of observed movement), the secondary zone was moved through 37 times resulting from groups going off the main walking trail. The tertiary zone recorded movement 15 times; this came from water-based activities.

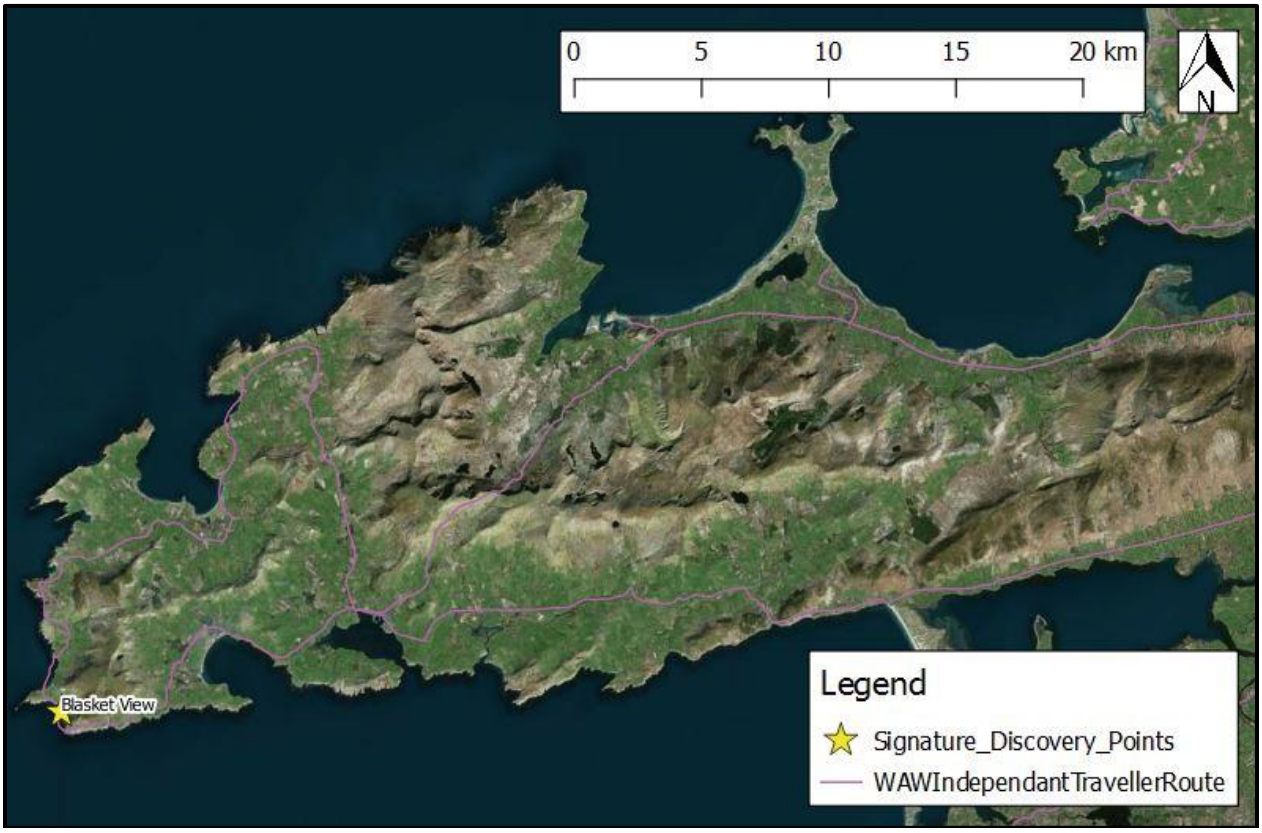
52% of visitors had no identifiable effect to the site. 46% had a medium impact. These visitors left the car park to walk through areas where desire lines were evident in the vegetation. Most visitors that left marked trails did so to go to the cliff edge.

1% accounted for high-level effects which came from one visitor fishing.

Image 3.3 Visitor Movement Zones at Dursey Sound

Blasket View

EVIRONMENTAL SURVEYING AND MONITORING RESULTS



3.4 Blasket View

Site Name: Blasket View	**Date Surveyed:** 7th – 8th June 2018
County: Kerry	**Landscape Type:** Rocky Shore/grassland in peninsular coastal context
Total no. of People: 1385	**Average Duration of visitors on site:** 0:08:15
Site Description: Blaskets View is a layby located along the Slea Head Drive in the Dingle Peninsula in Co. Kerry. There is a clear view of the Blasket Islands from the site. It is located adjacent to the Blasket Islands SAC. The site is a designated as an SAC for a number of habitats and species listed on Annex I and II of the E.U. Habitats Directive. The lay-by experiences a high volume of traffic. The layby has two additional lower tiers below the road. **Upgrades to Site:** There have been no site upgrades at Blasket View Discovery Point since 2015.	

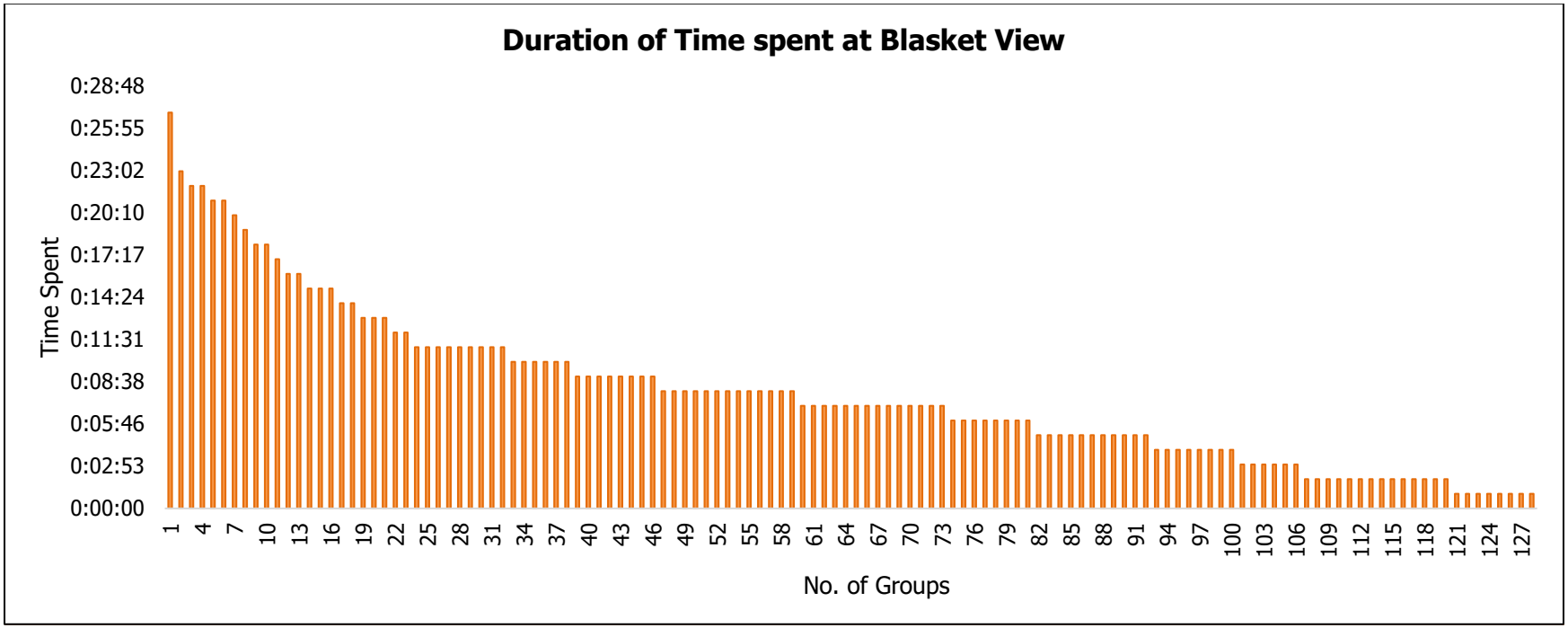


Figure 3.22 Duration Spent at Blasket View [5]

[5] This graph represents 127 of the 243 groups observed. 116 groups did not have a departure time recorded; however, these are assumed to fall within a normal distribution curve

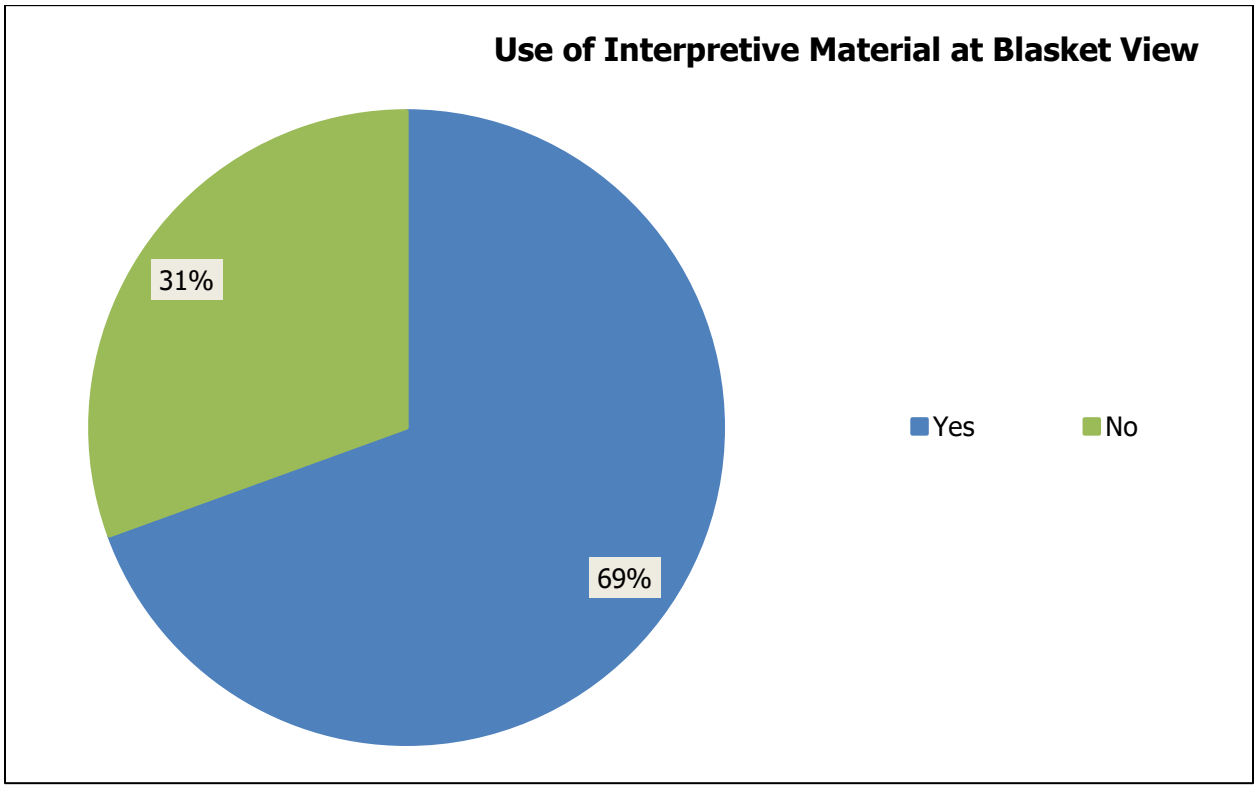


Figure 3.23 Use of interpretation material at Blasket View

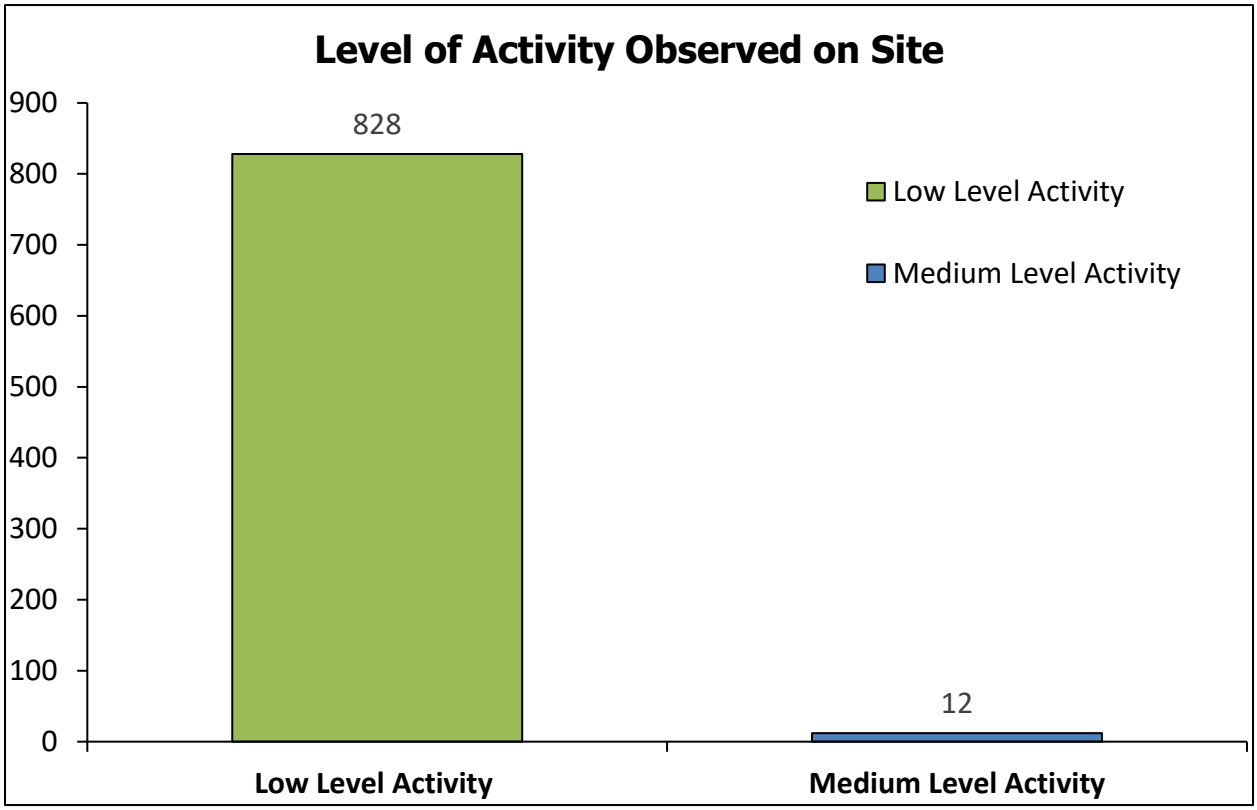


Figure 3.24 Level of Activity Observed Blasket View

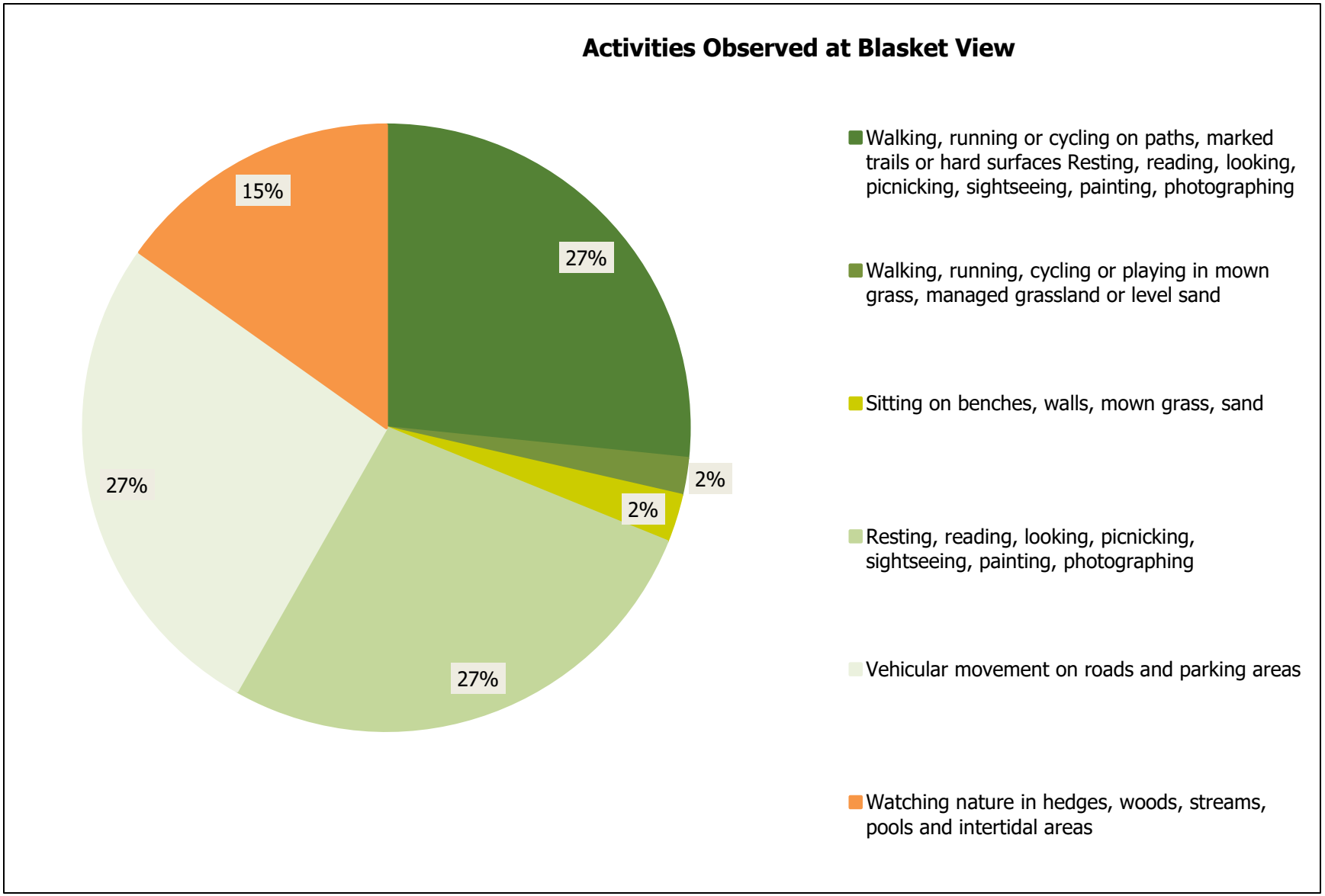


Figure 3.25 Range of Activities Observed at Blasket View

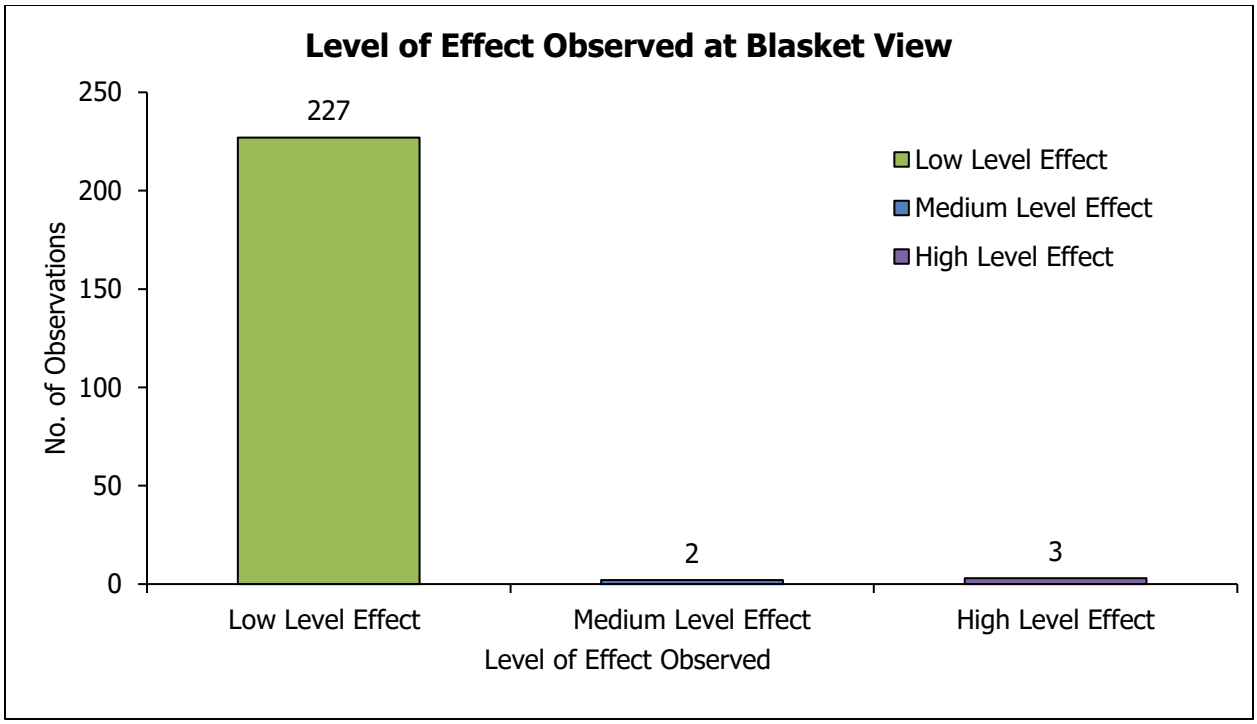


Figure 3.26 Level of Impacts observed at Blasket View

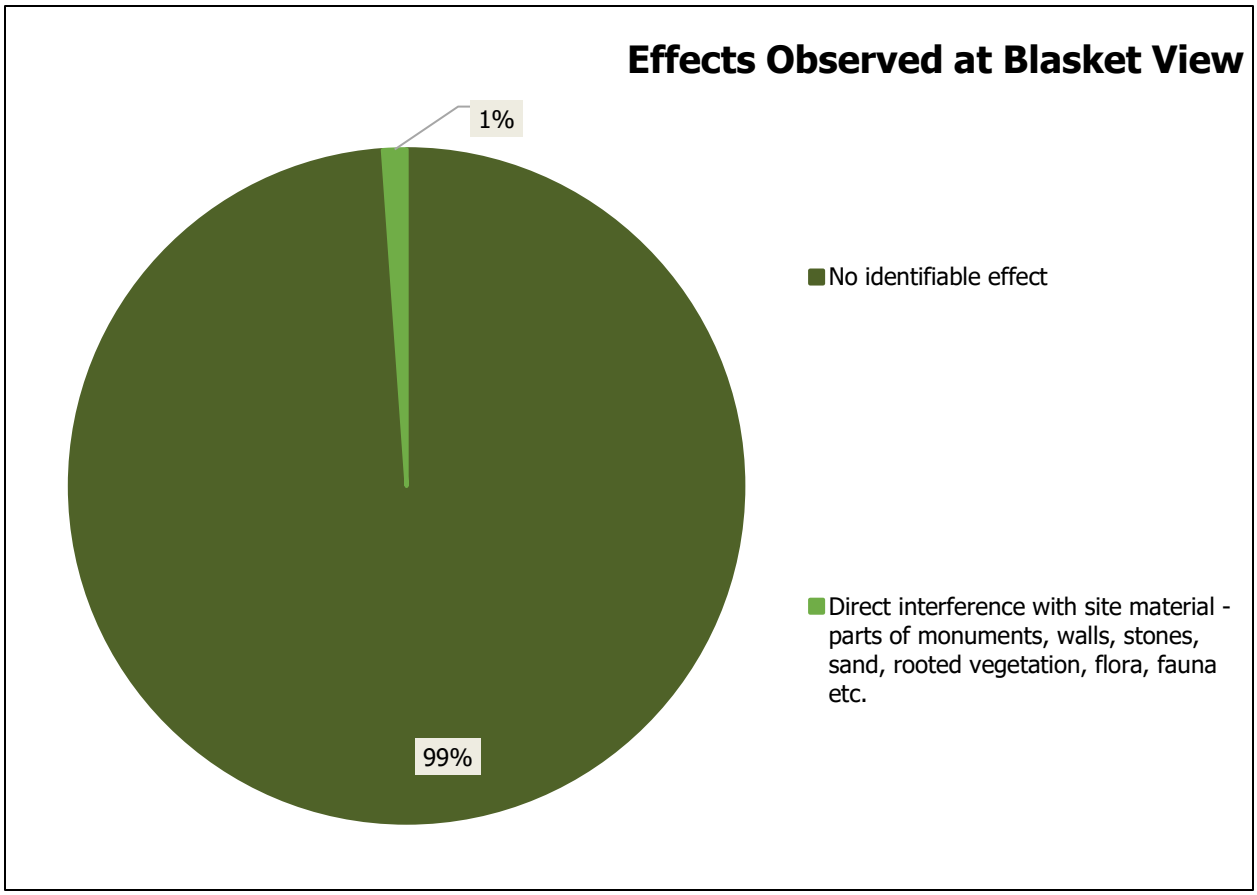


Figure 3.27 Range of Effects Observed at Blasket View

Table 3.4 Visitor Movement Zones Descriptions

Core Zone	Existing car parks, paved areas, viewing platforms, marked pathways, trails, tracks and managed grassland and areas where pathways, trails or roads exist. The majority of visitors remain in these zones.
Secondary Zone	Areas outside of existing car park, paved areas, marked pathways, trails, tracks and managed grassland. visitors are likely to traffic areas of grassland (in some cases farmland grazed by sheep or cattle), heath or bare rock, usually to get a better view of site attractions or to access trails at the site.
Tertiary Zone	Areas where no car park, paved areas, marked pathways, trails, tracks and managed grassland are identifiable and beyond the immediate boundaries of the site.

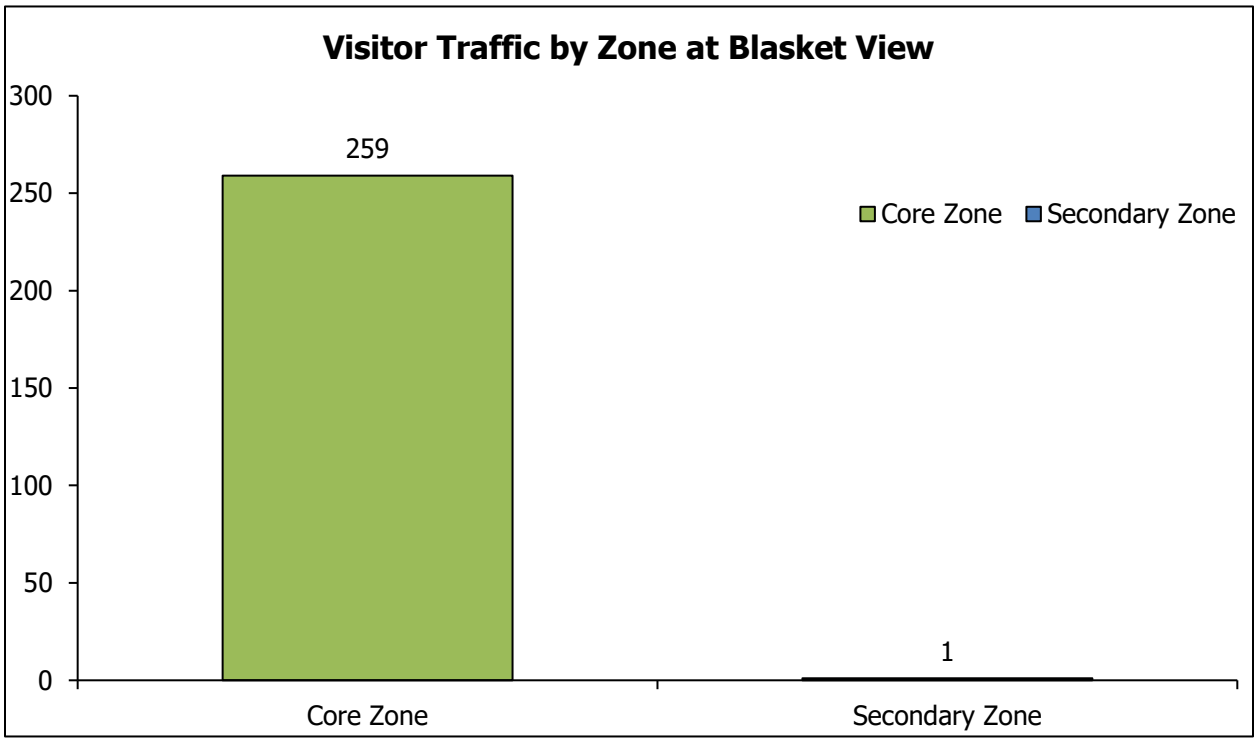


Figure 3.28 Zones trafficked by visitors at Blasket View

3.4.1 Analysis of Results and Visitor Movement Patterns

The Core Zone was the trafficked by visitors at Blasket View (259 times), while the Secondary Zone was only trafficked once.

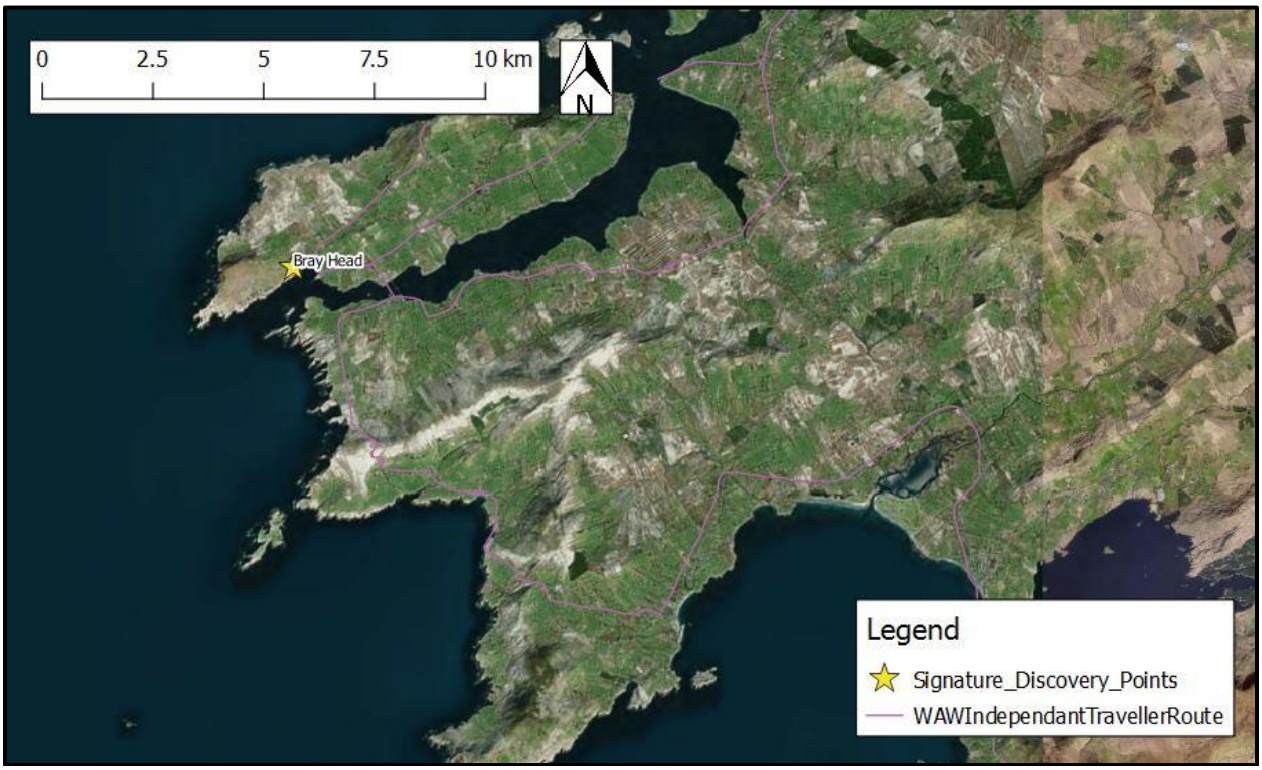
97% of visitors to Blasket View had no identifiable effect to the site. Overall no impacts where observed.

This is a well-managed site with visitors being aware of sensitivities in the area.

Image 3.4 Visitor Movement Zones at Blasket View

Bray Head

EVIRONMENTAL SURVEYING AND MONITORING RESULTS



3.5 Bray Head

Site Name: Bray Head	**Date Surveyed:** 9th & 10th June
County: Kerry	**Landscape Type:** Rocky Shore/Peat/grassland in a coastal plain context
Total no. of People: 415	**Average Duration of visitors on site:** 01:00:00
Site Description: Bray Head is located at the most south-westerly point of Valentia Island, Co. Kerry. A trail leads to a signal tower at the summit and overlooks Portmagee Harbour and the Skellig Islands. There is also evidence of beehive huts near the summit which are of archaeological interest. The site is grazed by sheep. Bray Head is located adjacent to the Valencia Harbour/Portmagee Channel SAC. The site is designated as an SAC for a number of habitats and species listed on Annex I and II of the E.U. Habitats Directive. The site comprises of a car park at the bottom of Bray Head and a pathway which forms a trail to the signal tower. The car park has been redeveloped in recent years and is privately owned. There is a fee of €2 for parking**.** **Upgrades to Site:** There has been a new car park constructed along with picnic tables since the 2015 survey.	

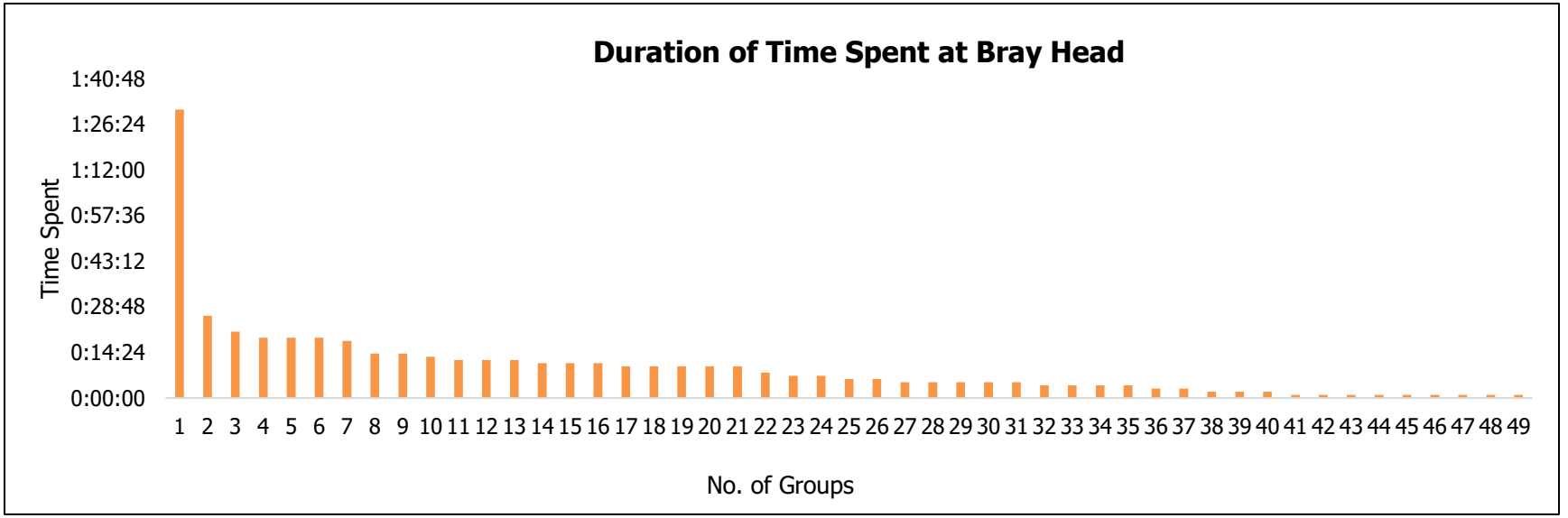


Figure 3.29 Duration Spent at Bray Head[6]

[6] This graph represents 50 of the 169 groups observed due to a low yield of departure times due to the nature of the site.

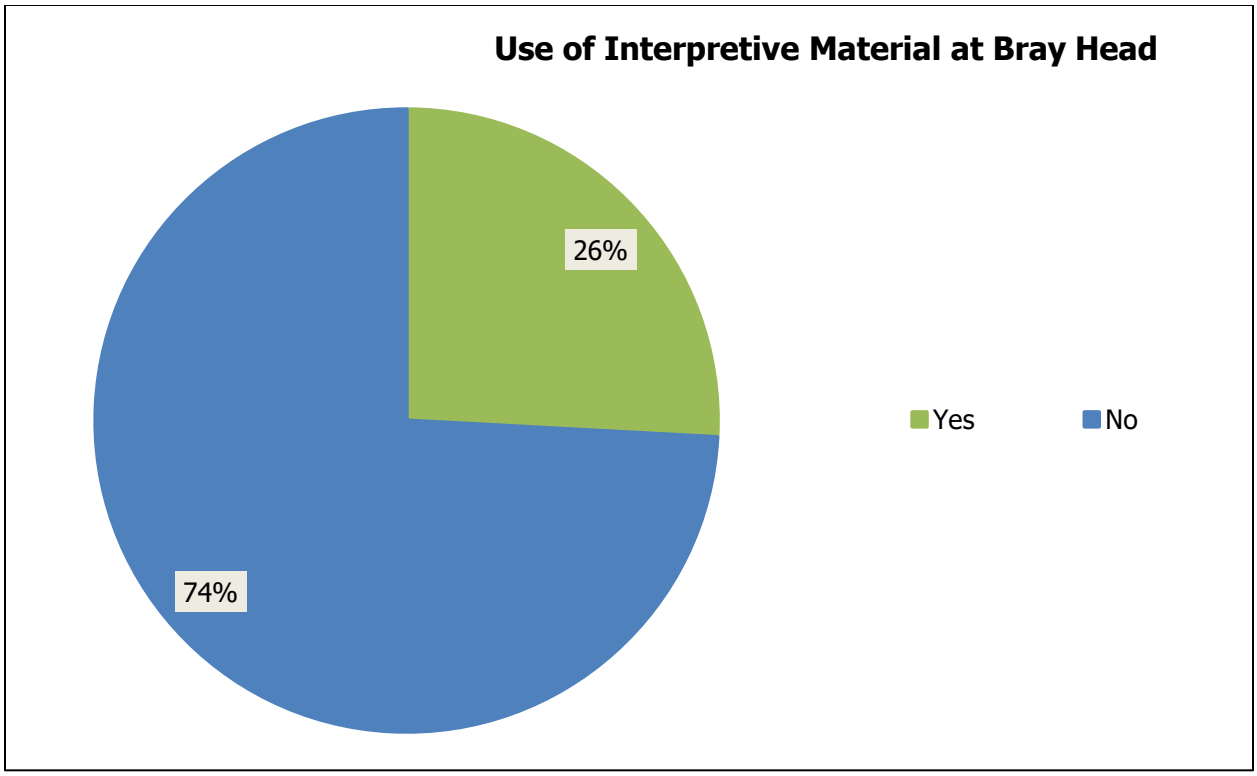


Figure 3.30 Use of Interpretive Material at Bray Head

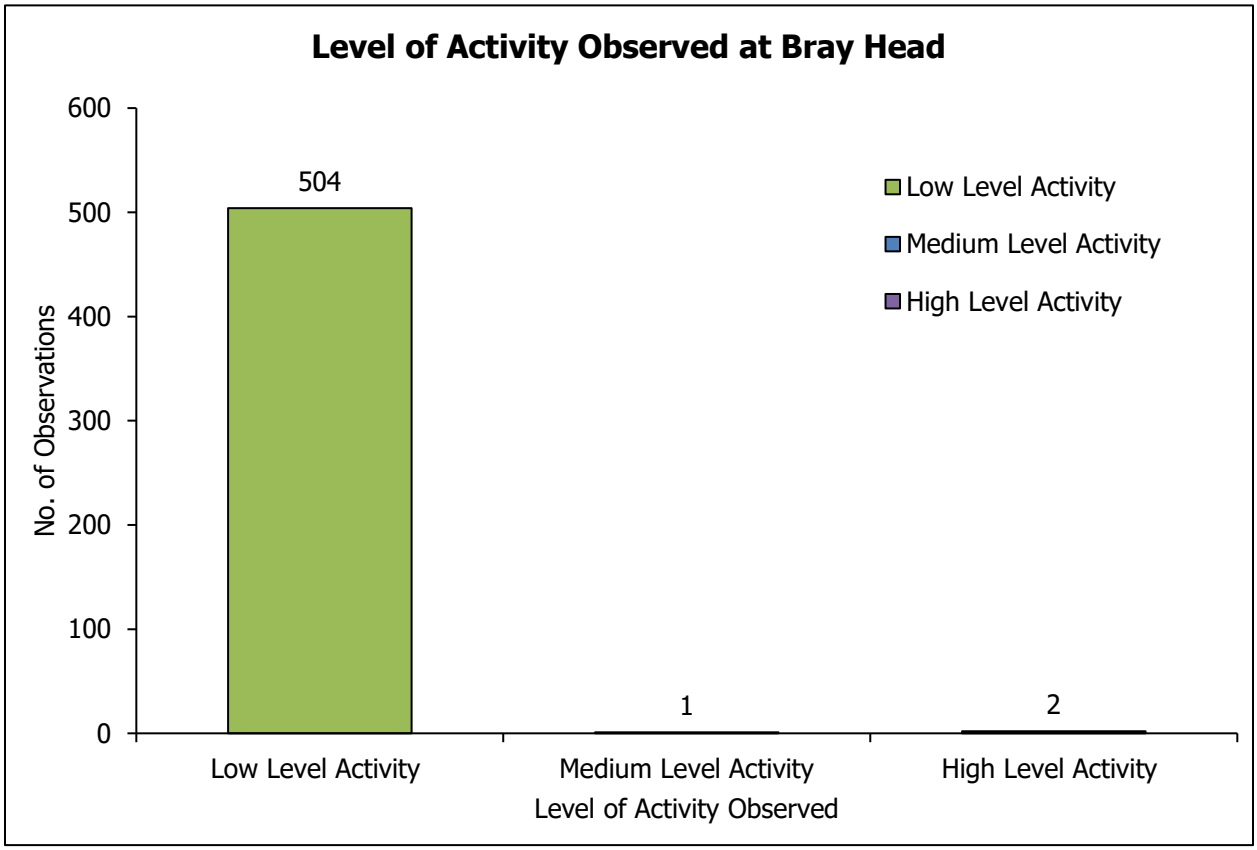


Figure 3.31 Level of Activity Observed at Bray Head

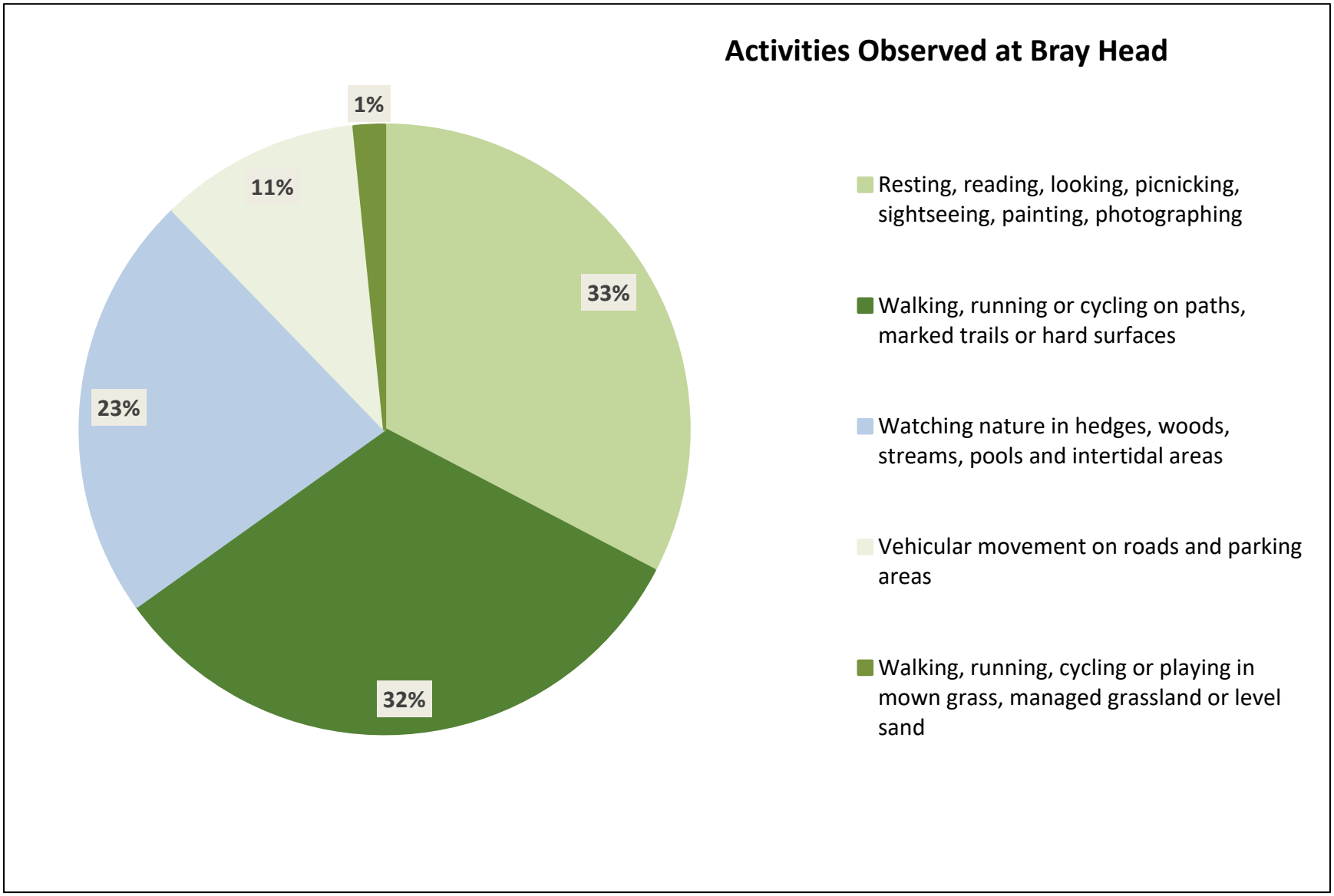


Figure 3.32 Range of Activities Observed at Bray Head

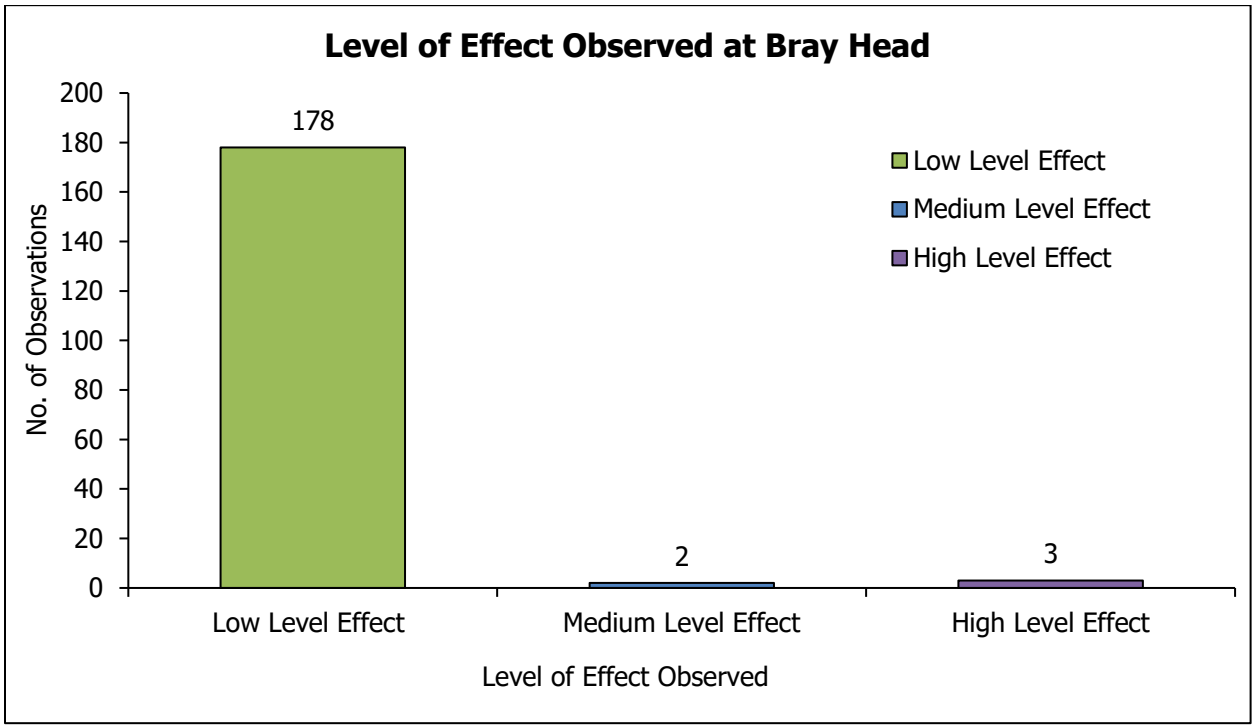


Figure 3.33 Level of Impact Observed at Bray Head

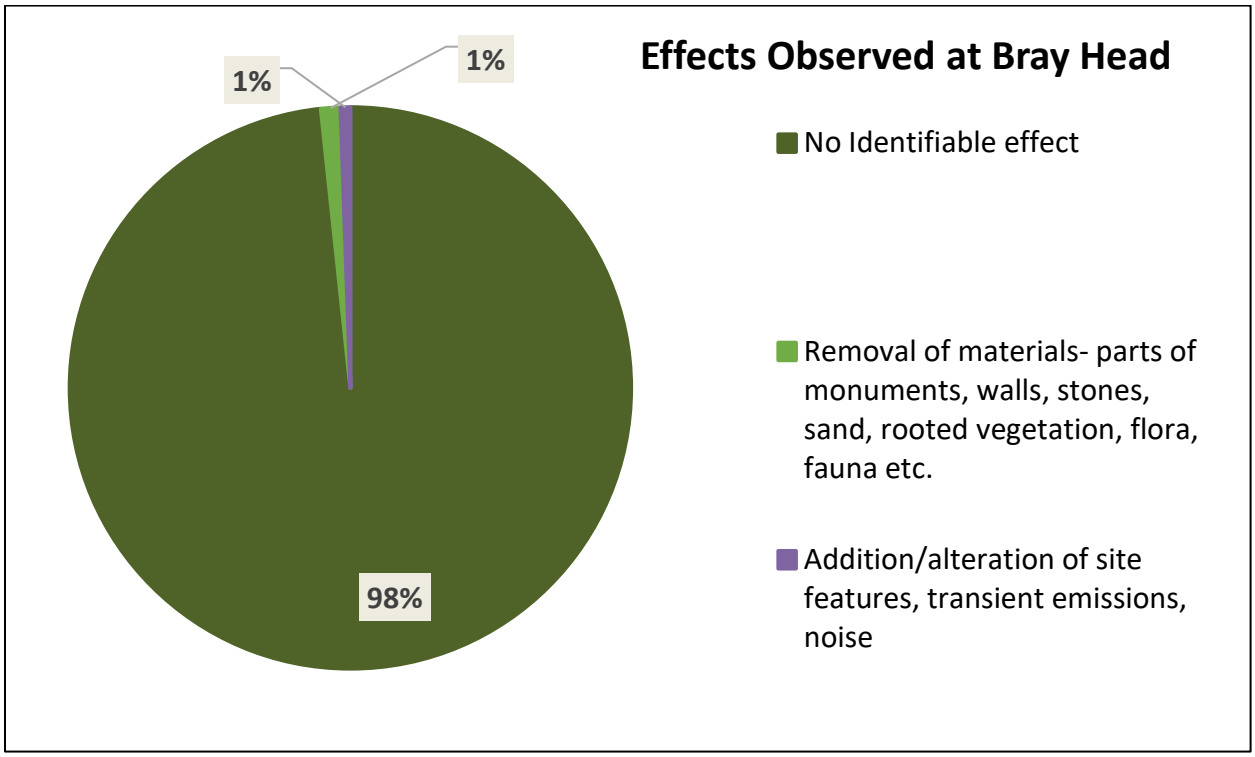


Figure 3.34 Range of Effects Observed at Bray Head

Table 3.5 Visitor Movement Zones Descriptions

Core Zone	Existing car parks, paved areas, viewing platforms, marked pathways, trails, tracks and managed grassland and areas where pathways, trails or roads exist. The majority of visitors remain in these zones.
Secondary Zone	Areas outside of existing car park, paved areas, marked pathways, trails, tracks and managed grassland. visitors are likely to traffic areas of grassland (in some cases farmland grazed by sheep or cattle), heath or bare rock, usually to get a better view of site attractions or to access trails at the site.

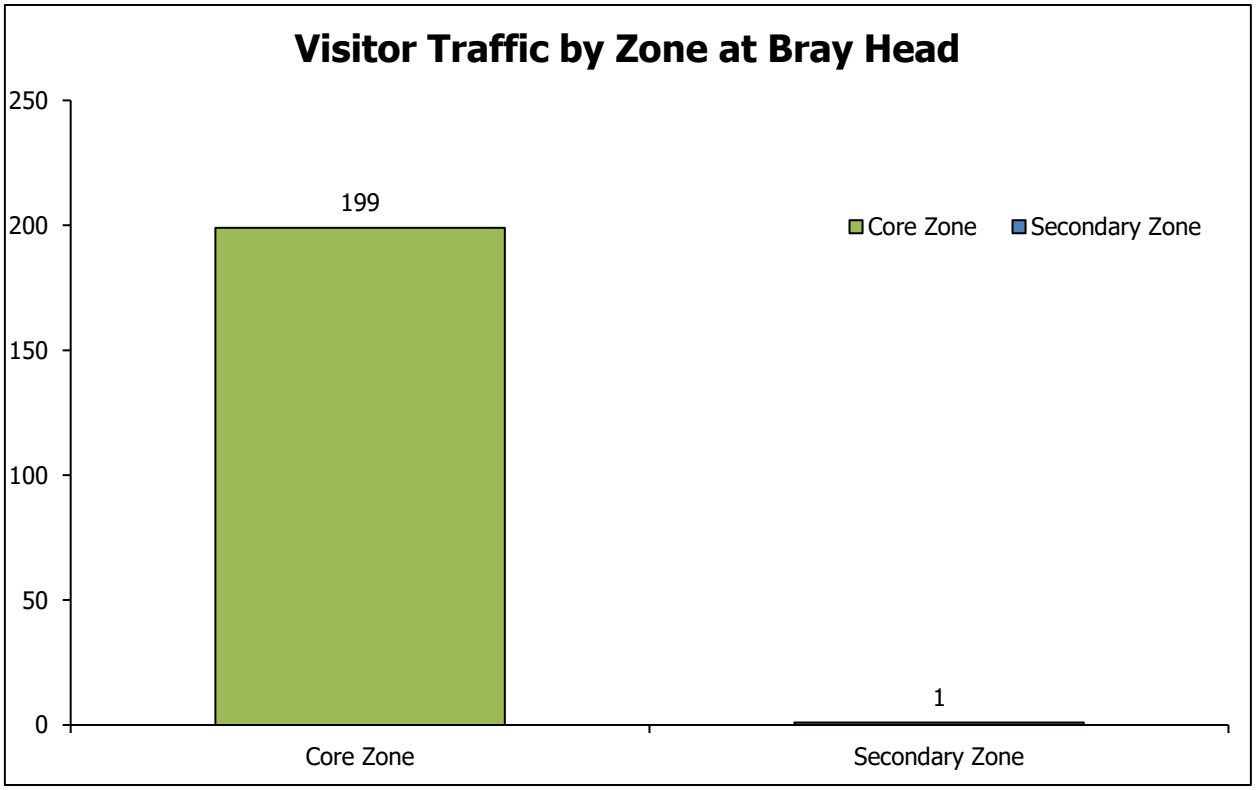


Figure 3.35 Zones trafficked by visitors at Bray Head

3.5.1 Recommendations and Analysis of Results and Visitor Movement Patterns

98% of visitors had no identifiable effect to the site. Visitor management at this site was good which resulted in less effects.

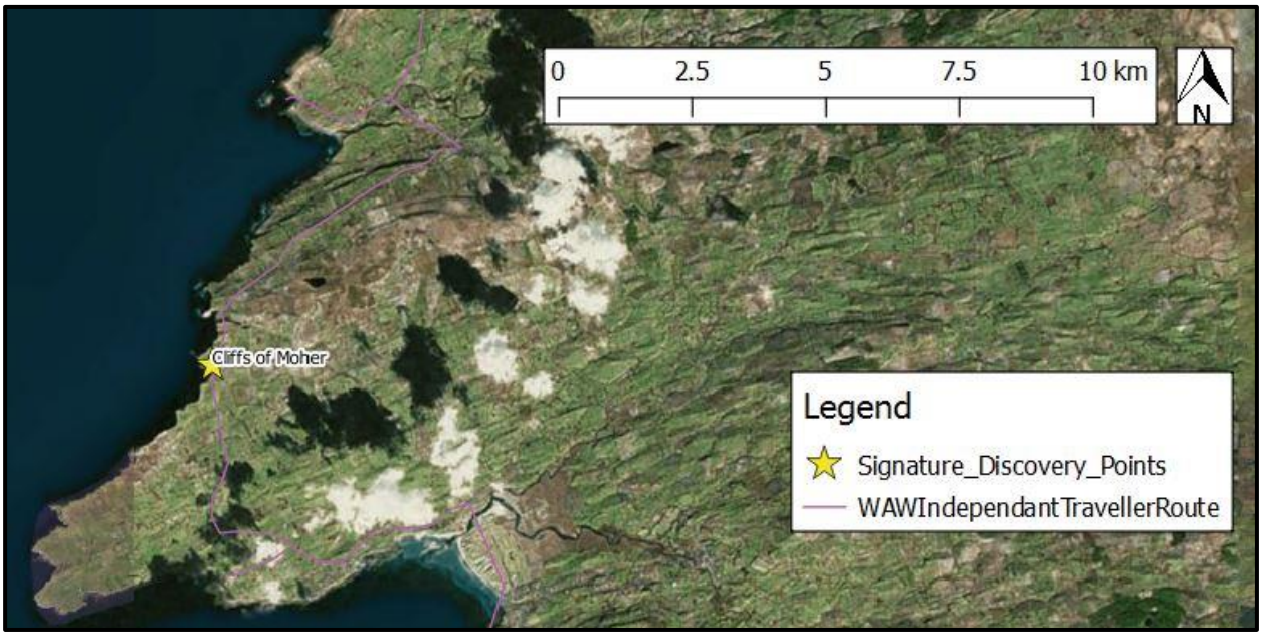
1% of all visitors where observed to have a high-level effect, this was a result of a child throwing a stone.

The core zone of Bray Head was trafficked 199 times; 99.5% of the visitor movements observed remained within the marked paths and trials; this resulted in the secondary zone being trafficked only once by a group returning to the car park through the grassland area.

Image 3.5 Visitor Movement Zones at Bray Head

Cliffs of Moher

EVIRONMENTAL SURVEYING AND MONITORING RESULTS



3.6 Cliffs of Moher

Site Name: Cliffs of Moher	**Date Surveyed:** 14th & 15th June
County: Clare	**Landscape Type:** Rocky Shore/peat/grassland in peninsular context
Total no. of People: 1362	**Average Duration of visitors on site:** 2:03:42
Site Description: The Cliffs of Moher in Co. Clare are located approximately six kilometres north of Liscannor. The cliffs are Ireland's most visited natural attraction. The Cliffs of Moher are located adjacent to the Cliffs of Moher SPA. The site is designated as an SPA for the protection of endangered species of birds listed in the European Union Directive on the Conservation of Wild Birds. The Cliffs are also of significant geological and historical interest. The site is highly managed with a visible staff presence, a visitor centre, a large car park across the road and coach parking. O'Briens Tower is accessible from the North Platform. From here, access can be gained to the northern part of the Coastal Walk trail. The South Platform allows access to the walk to Hag's Head along the southern section of the Coastal Walk trail. Observation was undertaken from between the Main Platform (near the visitor centre) and the North Platform. **Upgrades to Site:** Since the 2015 Monitoring survey a 1.34 million contract for a coach reception building and upgrading of existing Coach Parking facilities- toilets, meeting rooms and offices.	

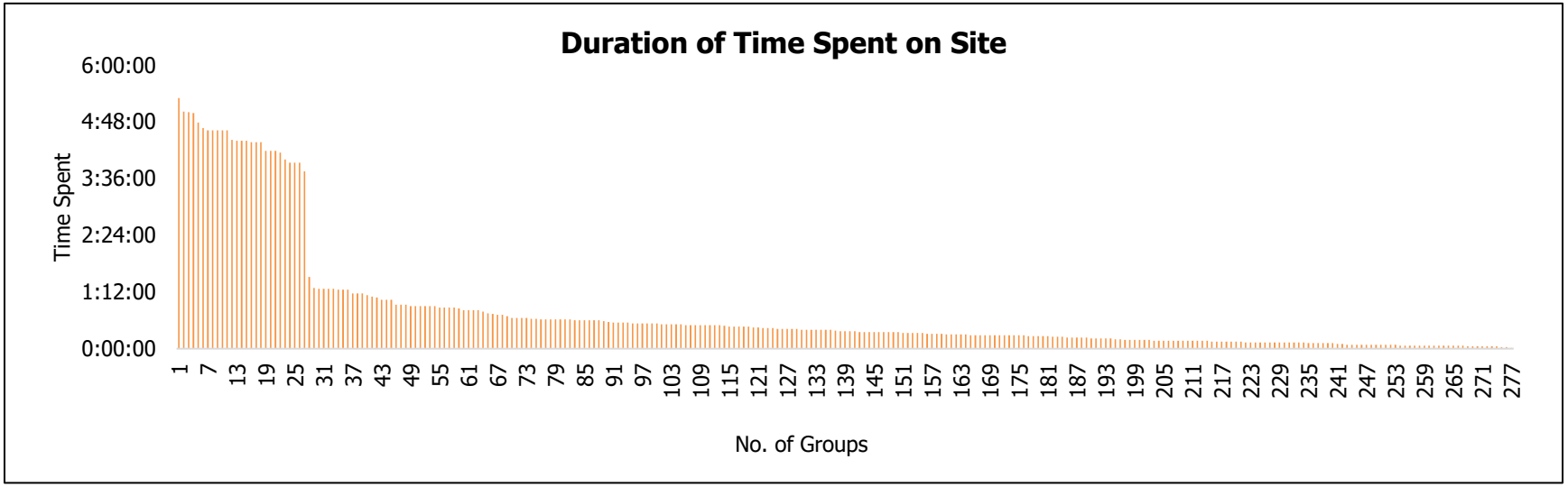


Figure 3.36 Duration Spent at Cliffs of Moher[7]

[7] The graph represents 278 of the 495 groups observed due to a low yield of departure times due to the nature of the site.

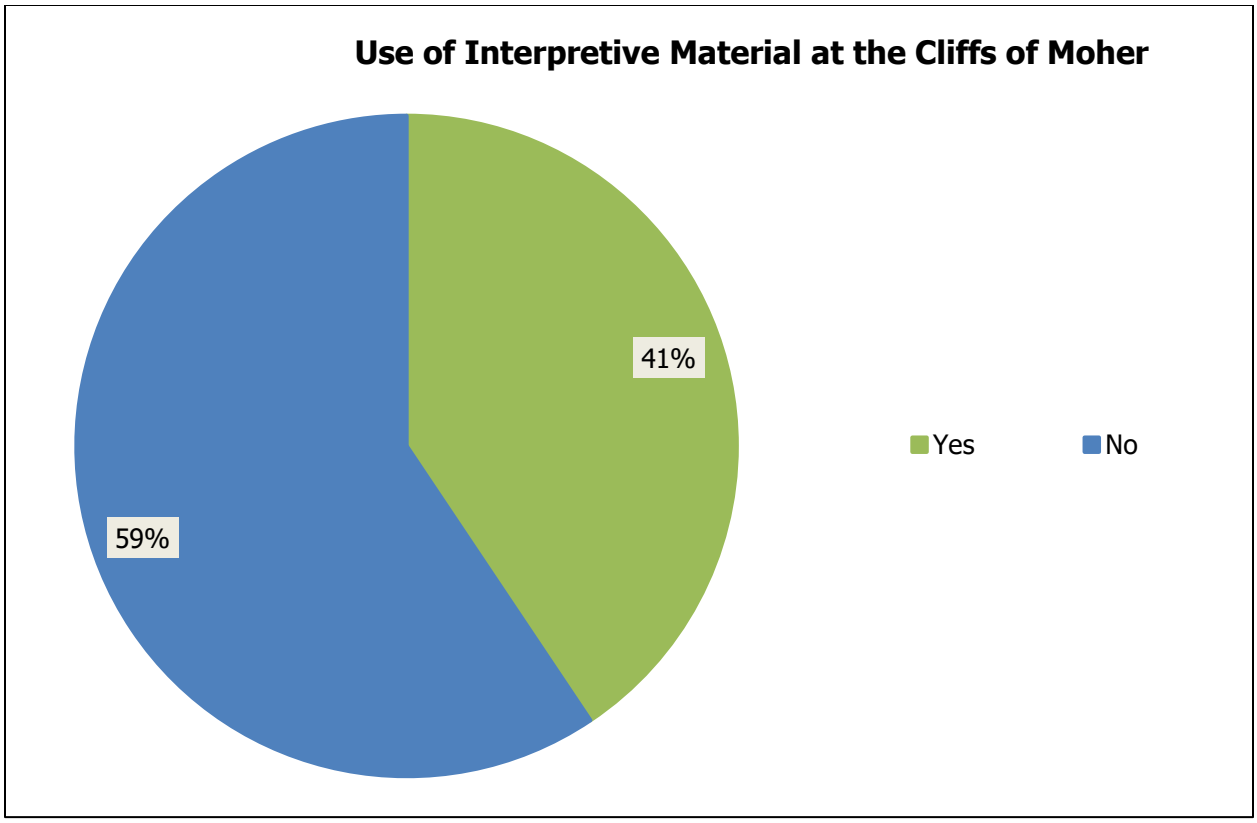


Figure 3.37 Use of Interpretive Material at Cliffs of Moher

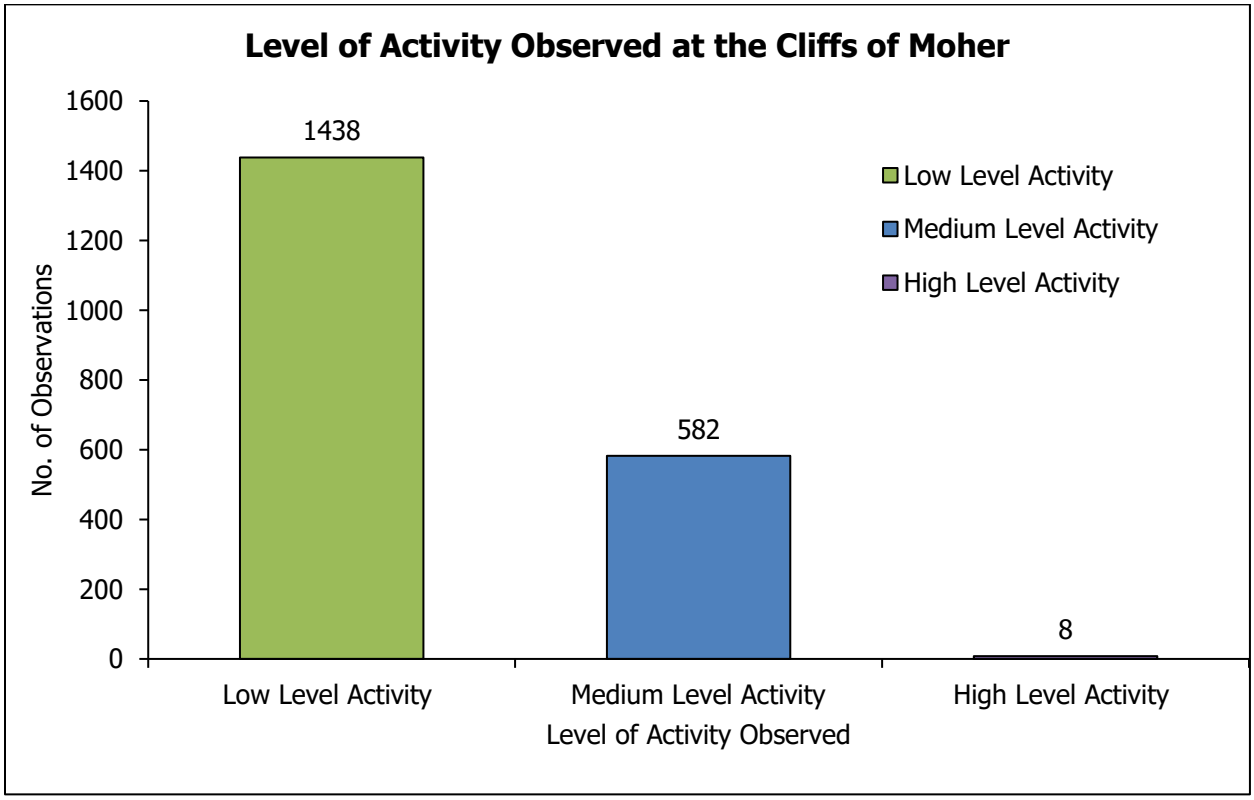


Figure 3.38 Level of Activity Observed Cliffs of Moher

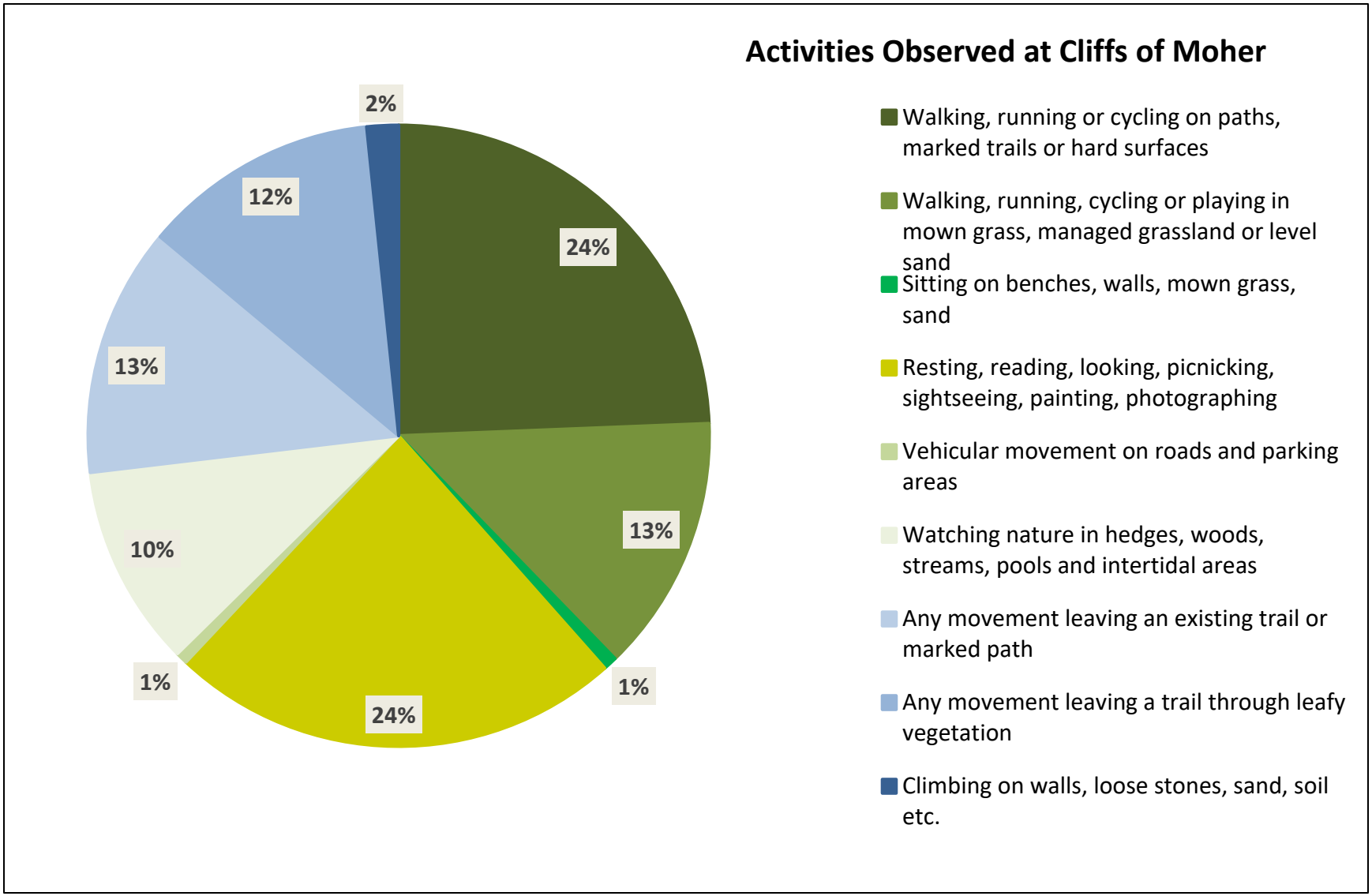


Figure 3.39 Range of Activities Observed Cliffs of Moher

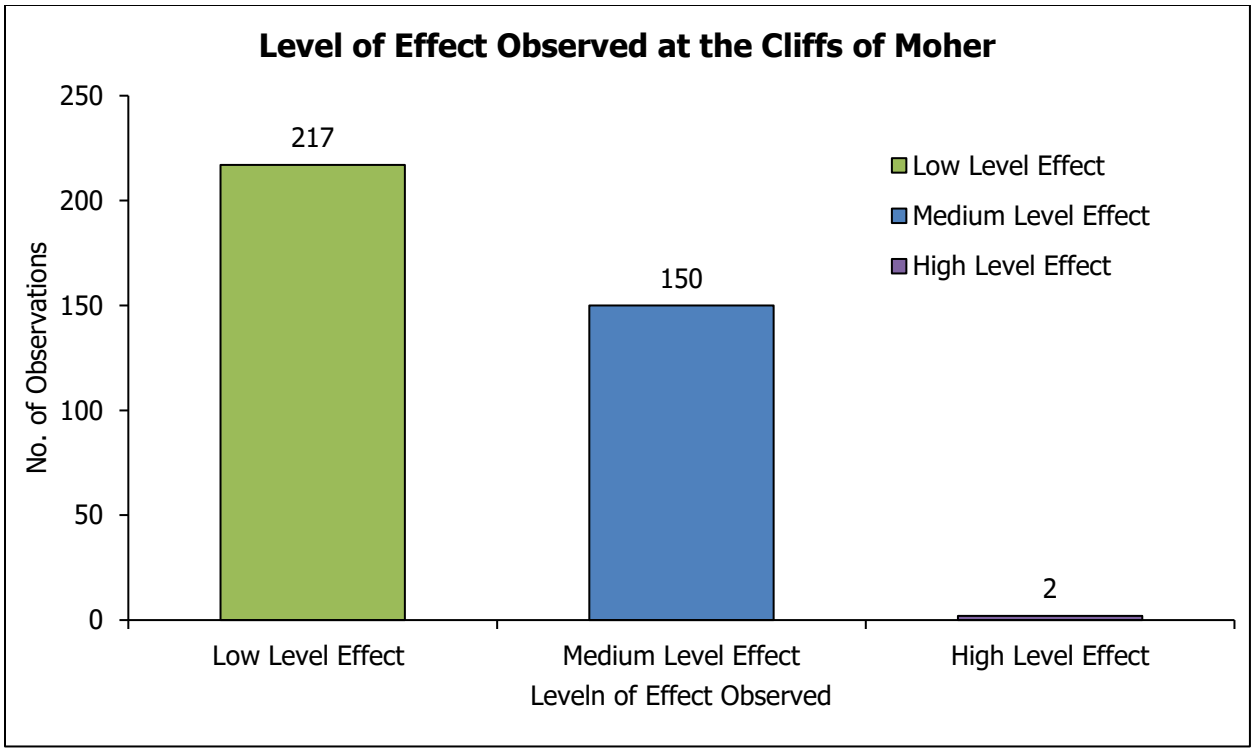


Figure 3.40 Level of Impact Observed Cliffs of Moher

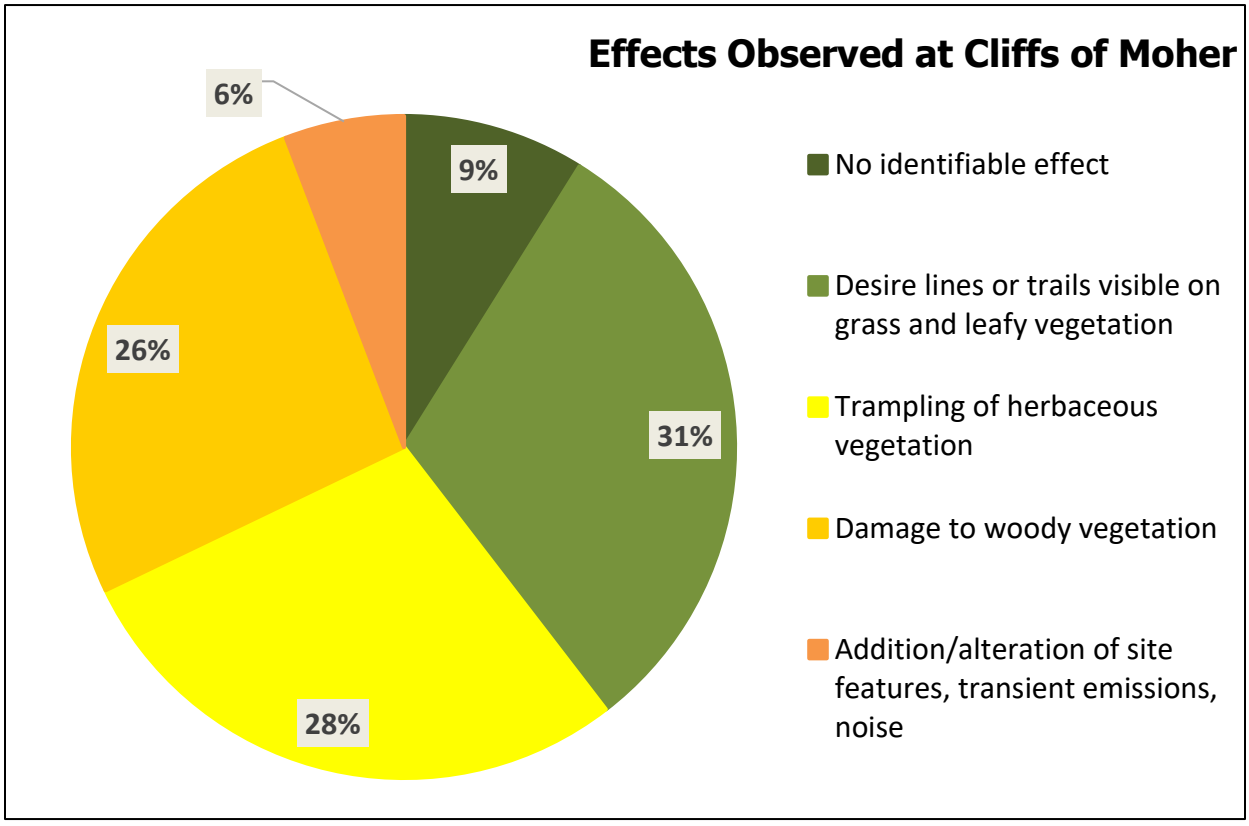


Figure 3.41 Impacts Observed Cliffs of Moher

Table 3.6 Visitor Movement Zones Descriptions

Core Zone	Existing car parks, paved areas, viewing platforms, marked pathways, trails, tracks and managed grassland and areas where pathways, trails or roads exist. The majority of visitors remain in these zones.
Secondary Zone	Areas outside of existing car park, paved areas, marked pathways, trails, tracks and managed grassland. visitors are likely to traffic areas of grassland (in some cases farmland grazed by sheep or cattle), heath or bare rock, usually to get a better view of site attractions or to access trails at the site.
Tertiary Zone	Areas where no car park, paved areas, marked pathways, trails, tracks and managed grassland are identifiable and beyond the immediate boundaries of the site.

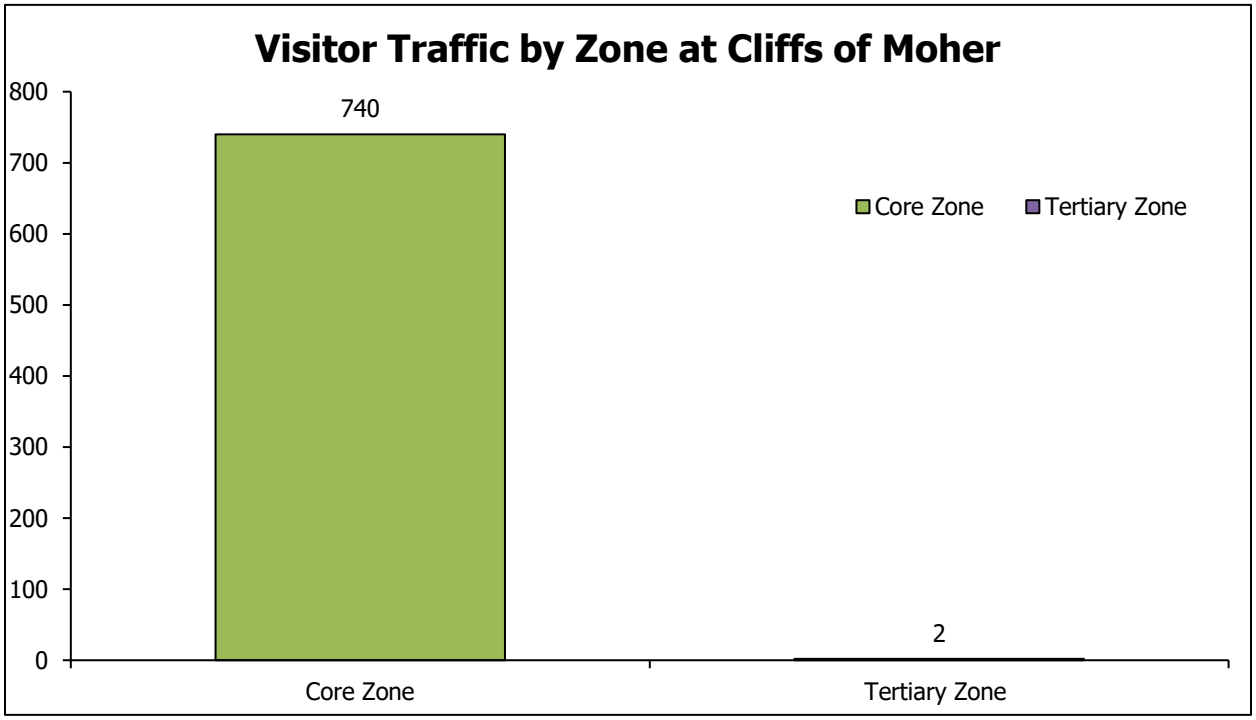


Figure 3.42 Zones trafficked by visitors Cliffs of Moher

3.6.1 Analysis of Results and Visitor Movement Patterns

Visitor traffic at the Cliffs of Moher was recorded in the core zone (740 times) and the Tertiary Zone (Twice).

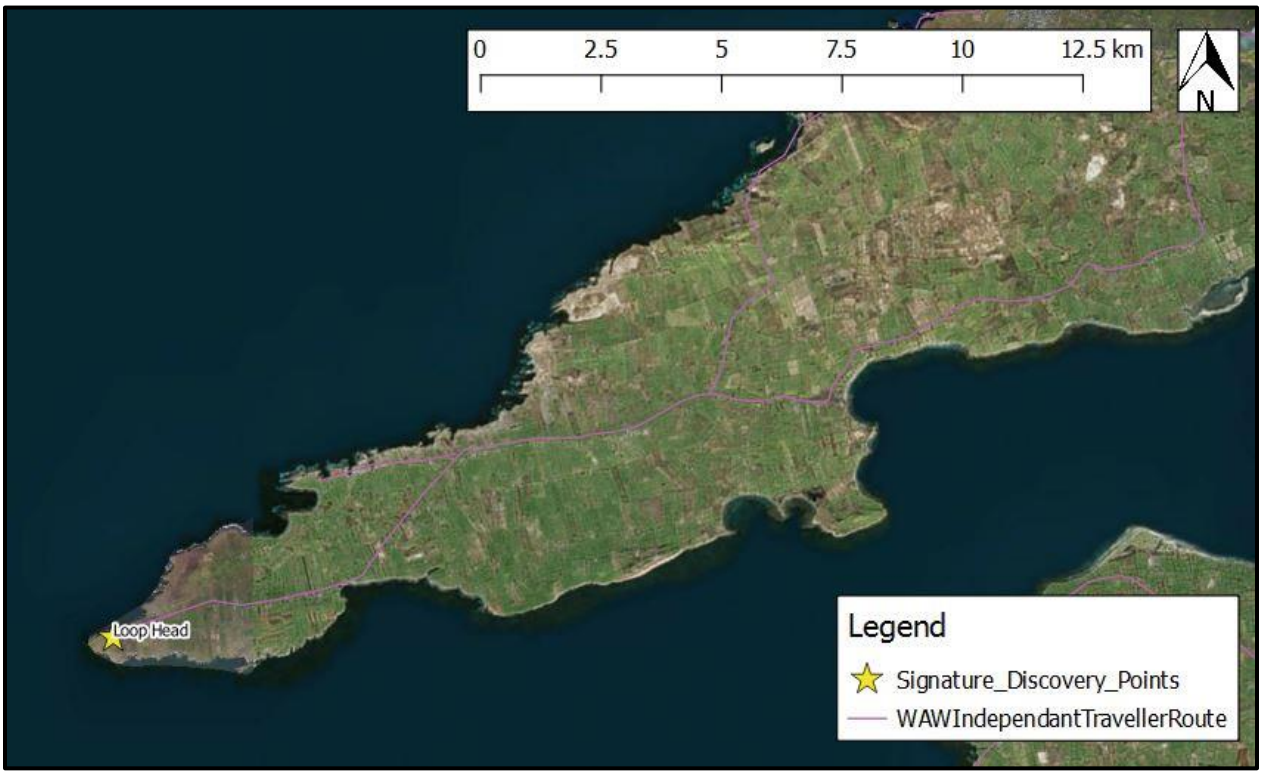
60% of visitors had a medium level effect to the site. This was a result of visitors trampling herbaceous vegetation and causing damage to woody vegetation. 40% of visitors had no identifiable effect to the site.

It was noted that there was evidence of soil compaction, erosion and removal of vegetation through trampling. Further details in this regard are presented in the Ecological Monitoring Report.

Image 3.6 Visitor Movement Zones Cliffs of Moher

Loop Head

EVIRONMENTAL SURVEYING AND MONITORING RESULTS



3.7 Loop Head

Site Name: Loop Head	**Date Surveyed:** 16th & 17th June 2018
County: Clare	**Landscape Type:** Rocky shore/peat/grassland in peninsular coastal context
Total no. of People: 498	**Average Duration of visitors on site:** 00:12:40
Site Description: Loop Head is located on a Peninsula north of the mouth of the River Shannon in Co. Clare. Loop Head Lighthouse is one of 70 lighthouses in Ireland that is operated by the Commissioner of Irish Lights. The lighthouse is open to the general public for tours and is managed by Clare County Council. The headland west of the lighthouse contains an 'EIRE' sign which was used during World War II to alert pilots that they were flying over Ireland. Loop Head is located within the Loop Head SAC and adjacent to the Loop Head SPA. The site is a designated as an SAC for a number of habitats and species listed on Annex I and II of the E.U. Habitats Directive. The site is also designated as an SPA for the protection of endangered species of birds listed in the European Union Directive on the Conservation of Wild Birds. The site comprises of a car park for approximately 30-40 cars. The lighthouse is enclosed by a wall and is accessible to the public. **Upgrades to Site:** There have been no site upgrades at Loop Head Discovery Point since 2015.	

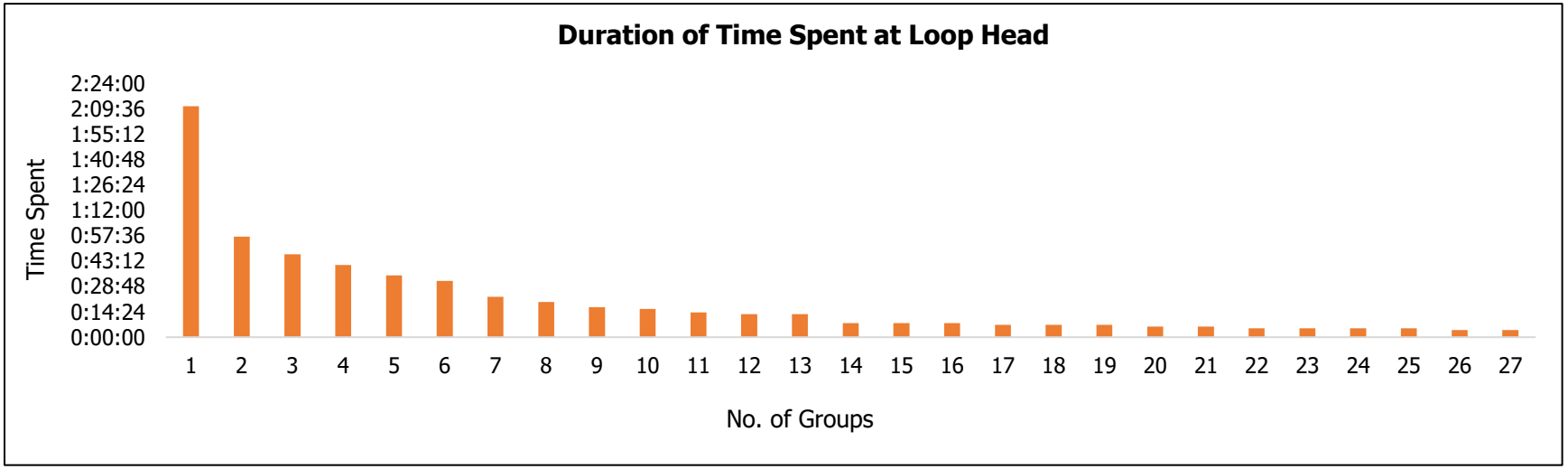


Figure 3.43 Duration Spent at Loop Head[8]

[8] The graph represents 27 of the 234 groups observed on site due to a low yield of departure times due to the nature of the site

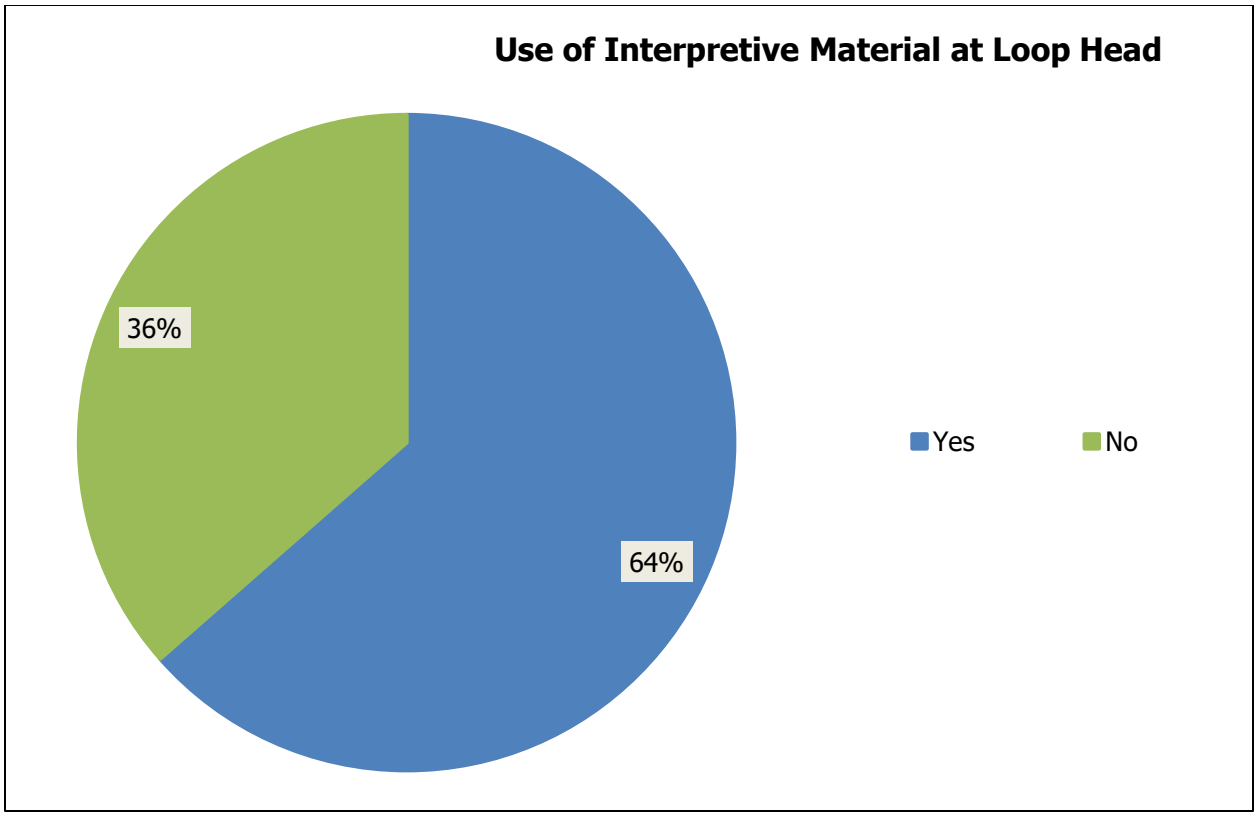


Figure 3.44 Use of Interpretive Material at Loop Head

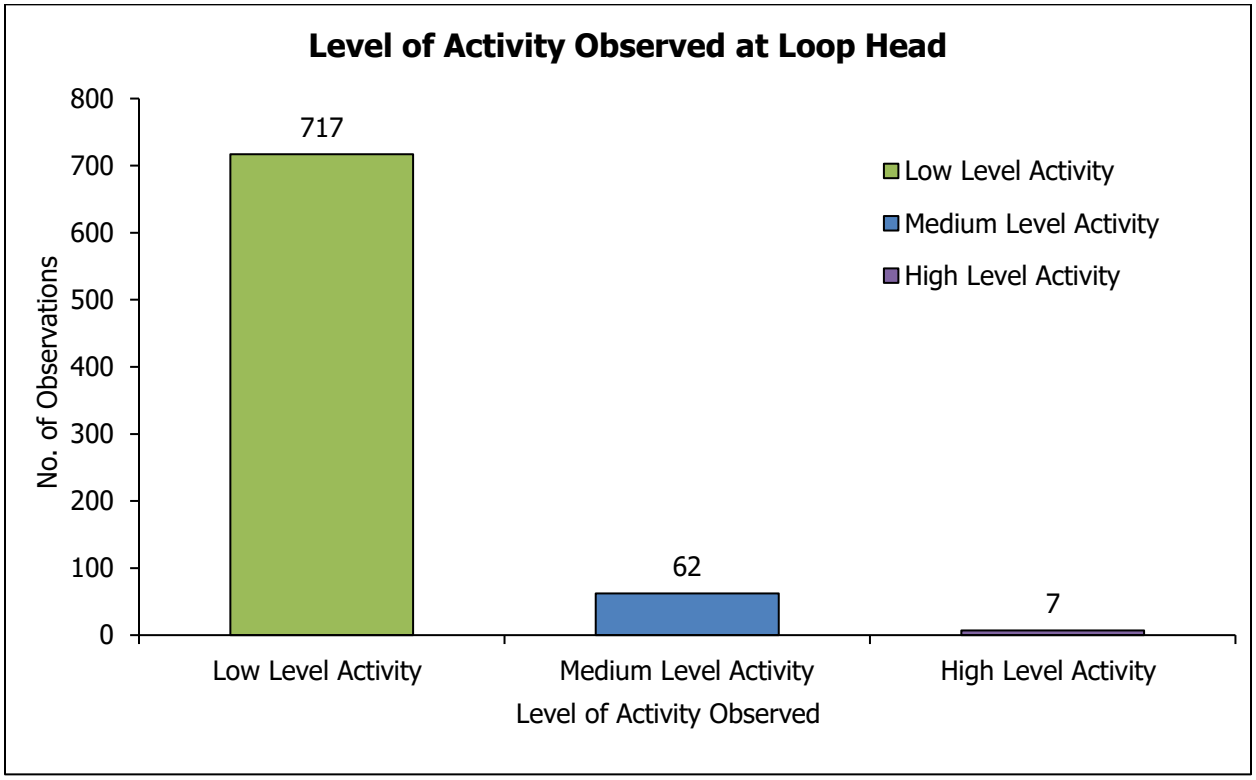


Figure 3.45 Level of Activity Observed at Loop Head

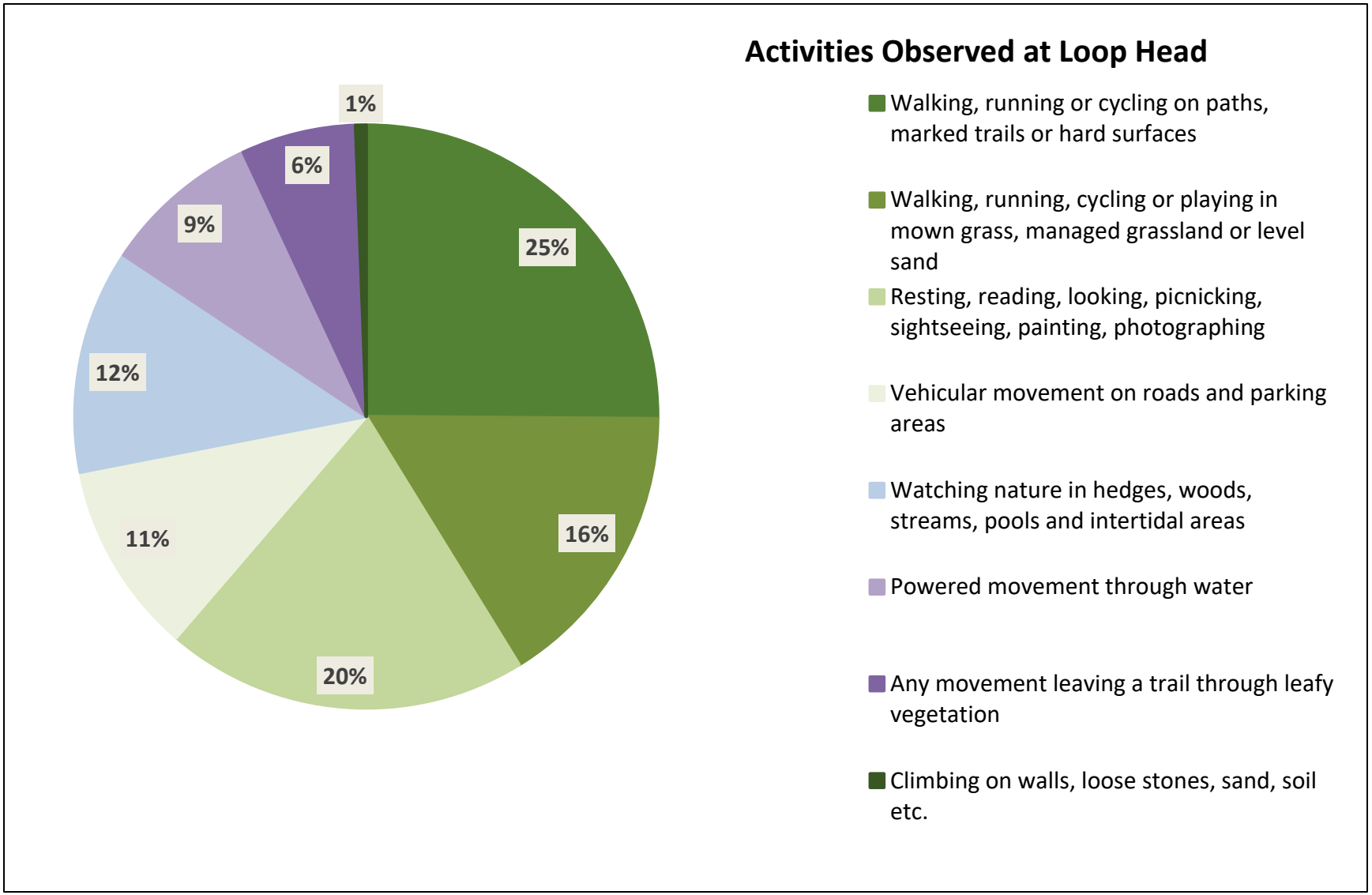


Figure 3.46 Range of Activities Observed at Loop Head

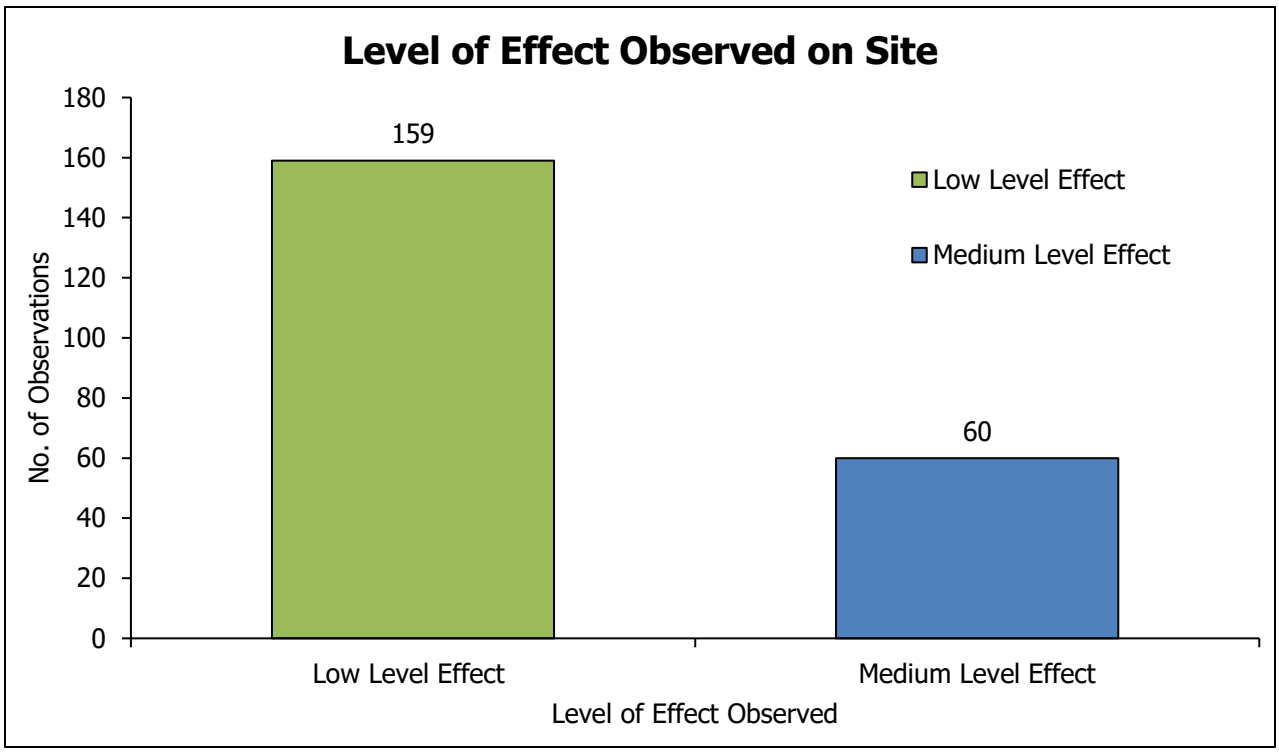


Figure 3.47 Level of Impact Observed at Loop Head

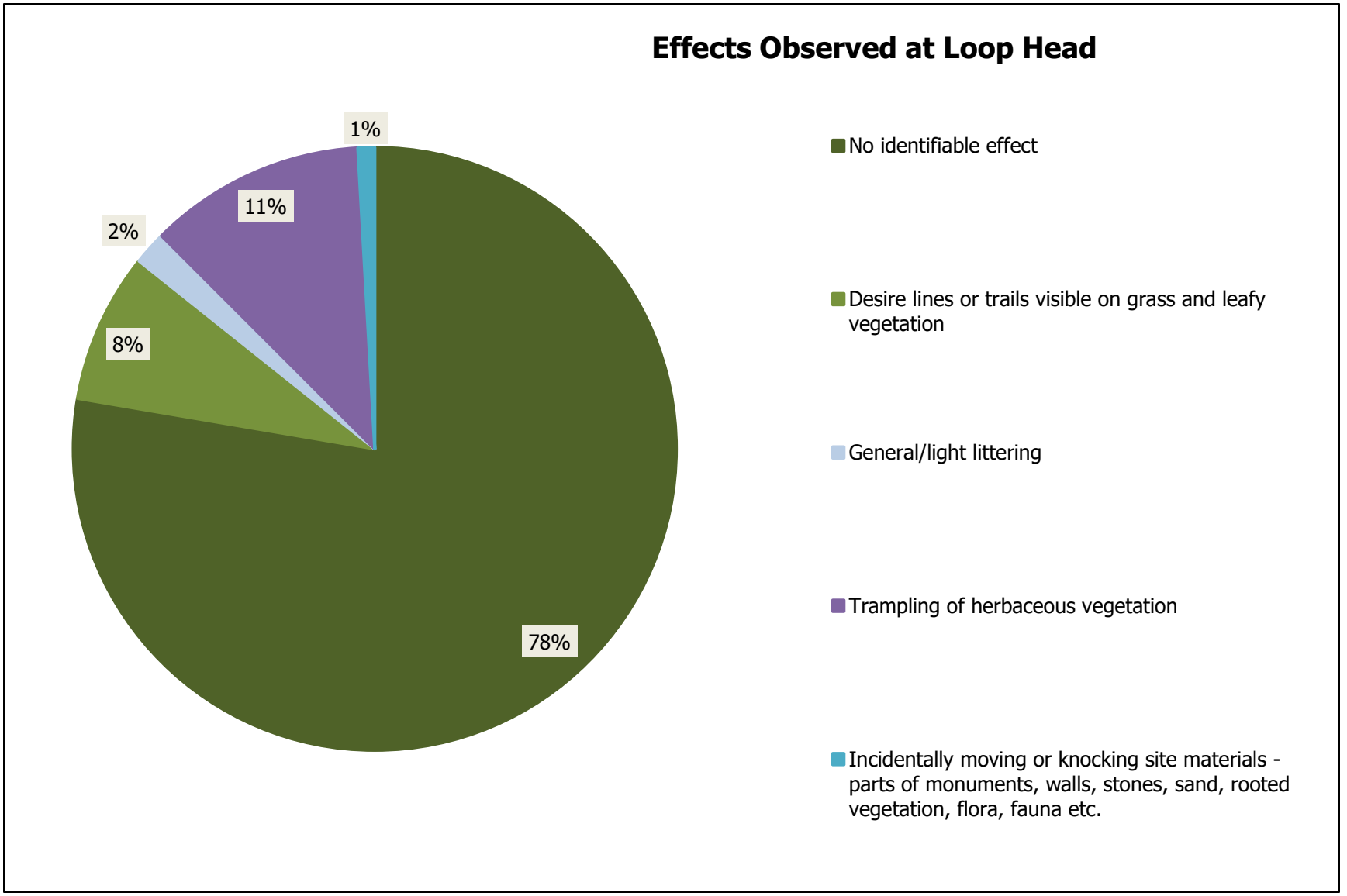


Figure 3.48 Impacts Observed at Loop Head

Table 3.7 Visitor Movement Zones Descriptions

Core Zone	Existing car parks, paved areas, viewing platforms, marked pathways, trails, tracks and managed grassland and areas where pathways, trails or roads exist. The majority of visitors remain in these zones.
Secondary Zone	Areas outside of existing car park, paved areas, marked pathways, trails, tracks and managed grassland. visitors are likely to traffic areas of grassland (in some cases farmland grazed by sheep or cattle), heath or bare rock, usually to get a better view of site attractions or to access trails at the site.

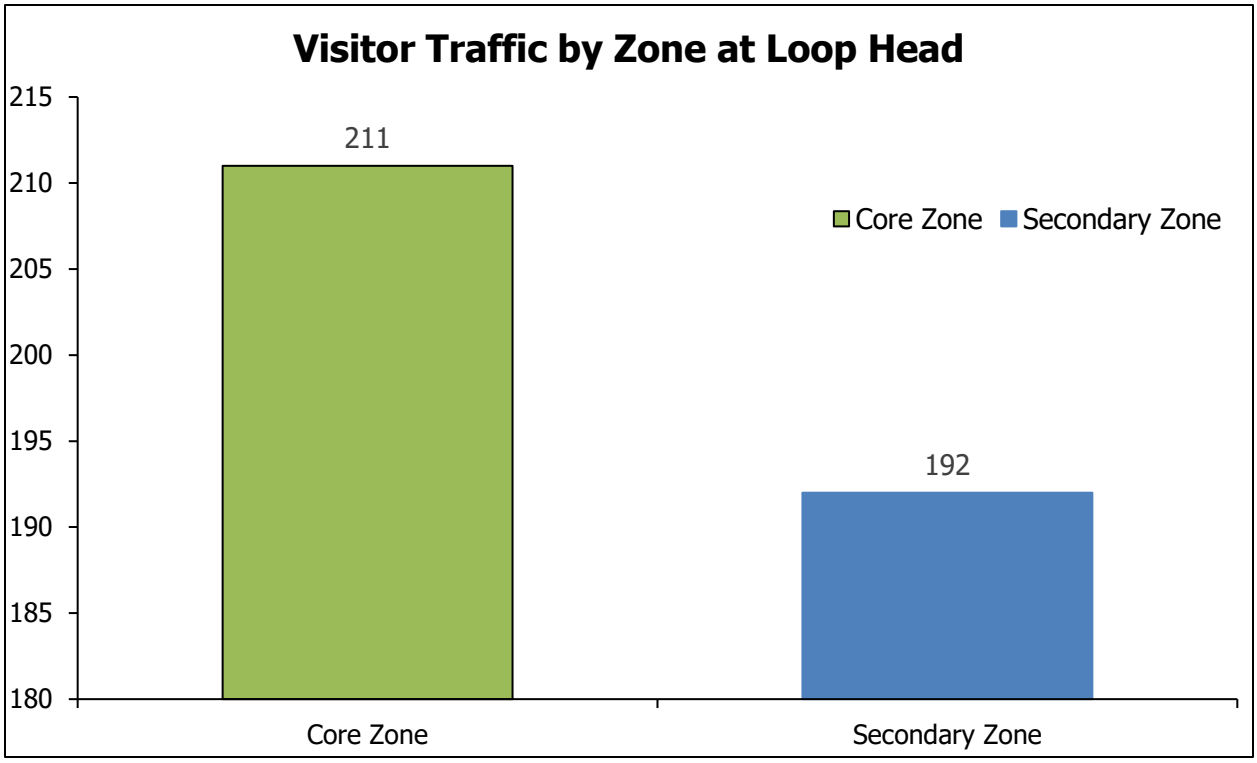


Figure 3.49 Zones trafficked by visitors at Loop Head

3.7.1 Analysis of Results and Visitor Movement Patterns

Loop head was trafficked by visitors in the Core (211), Secondary (192). 47% of visitor movements were recorded outside of the core areas.

78% of visitors had no identifiable effect on the site. Desire line were evident where visitors walked along the headland and a further 8% of visitor effects were identified as low.

12% of the overall effects observed were medium level effects associated with trampling of herbaceous vegetation. This is a result of the surrounding area being used as unrestricted parking facilities.

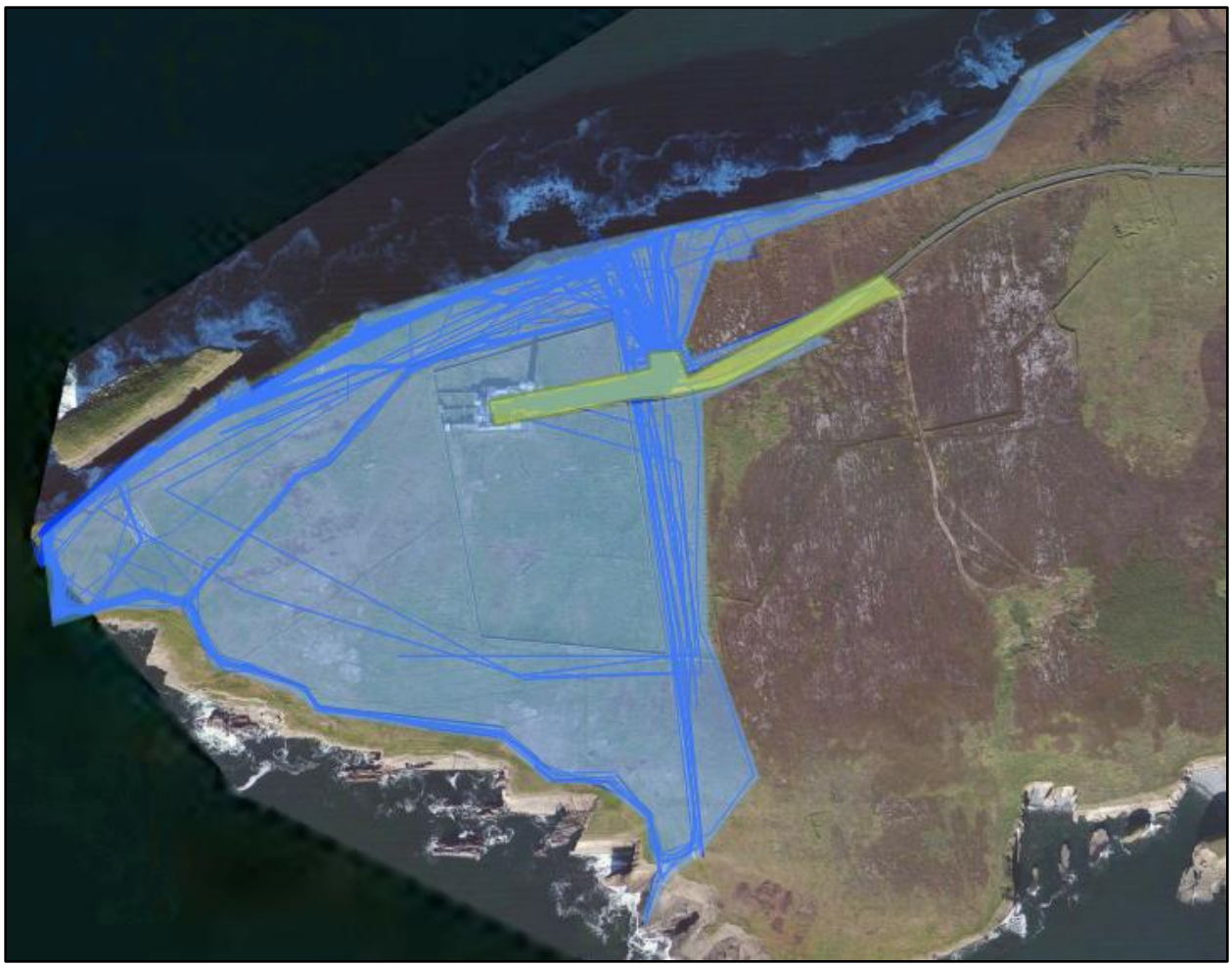
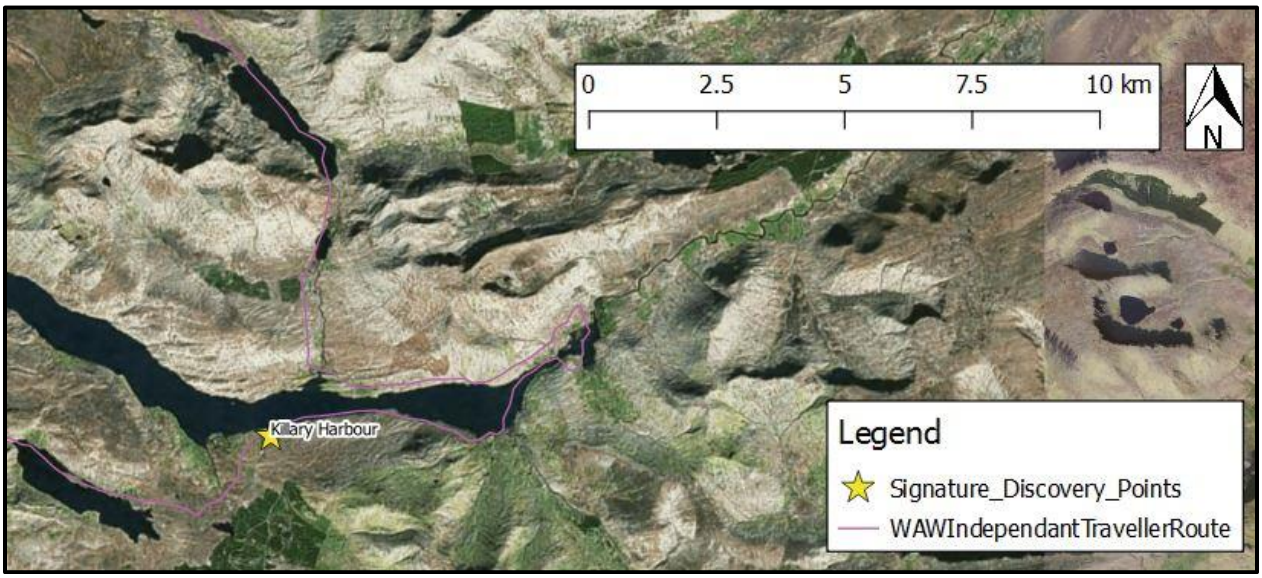


Image 3.7 Visitor Movement Zones at at Loop Head

Killary Harbour

EVIRONMENTAL SURVEYING AND MONITORING RESULTS



3.8 Killary Harbour

Site Name: Killary Harbour	**Date Surveyed:** 21st & 22nd of June
County: Galway	**Landscape Type:** Montane/upland/peat in peninsular coastal context
Total no. of People: 1323	**Average Duration of visitors on site:** 00:20:54
Site Description: Killary Harbour is known to be Ireland's only fjord and is located west of the village of Leenaun in Connemara, Co. Galway. Locally the area is known for aquaculture including salmon farms and mussel rafts. The site comprises of large lay-by west of Leenaun and has capacity for approx. 10-20 cars, there is also a small viewing platform. The candidate Signature Discovery Point is located adjacent to the Maumturk Mountains SAC. The site is designated as an SAC for a number of habitats and species listed on Annex I and II of the E.U. Habitats Directive. **Upgrades to Site:** There have been no site upgrades at Killary Harbour Discovery Point since 2015	

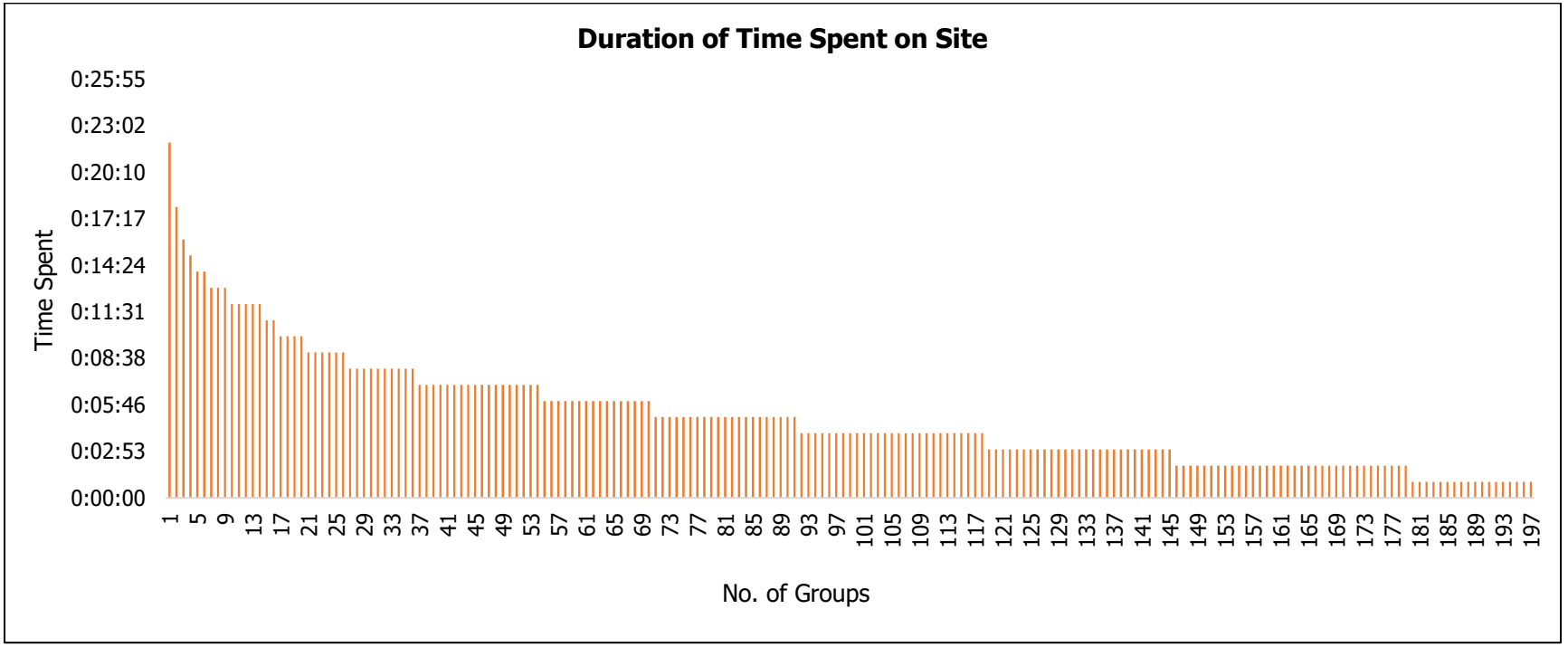


Figure 3.50 Duration Spent at Killary Harbour[9]

[9] Graph represents 198 of the 236 groups observed as not all departure times were recorded.

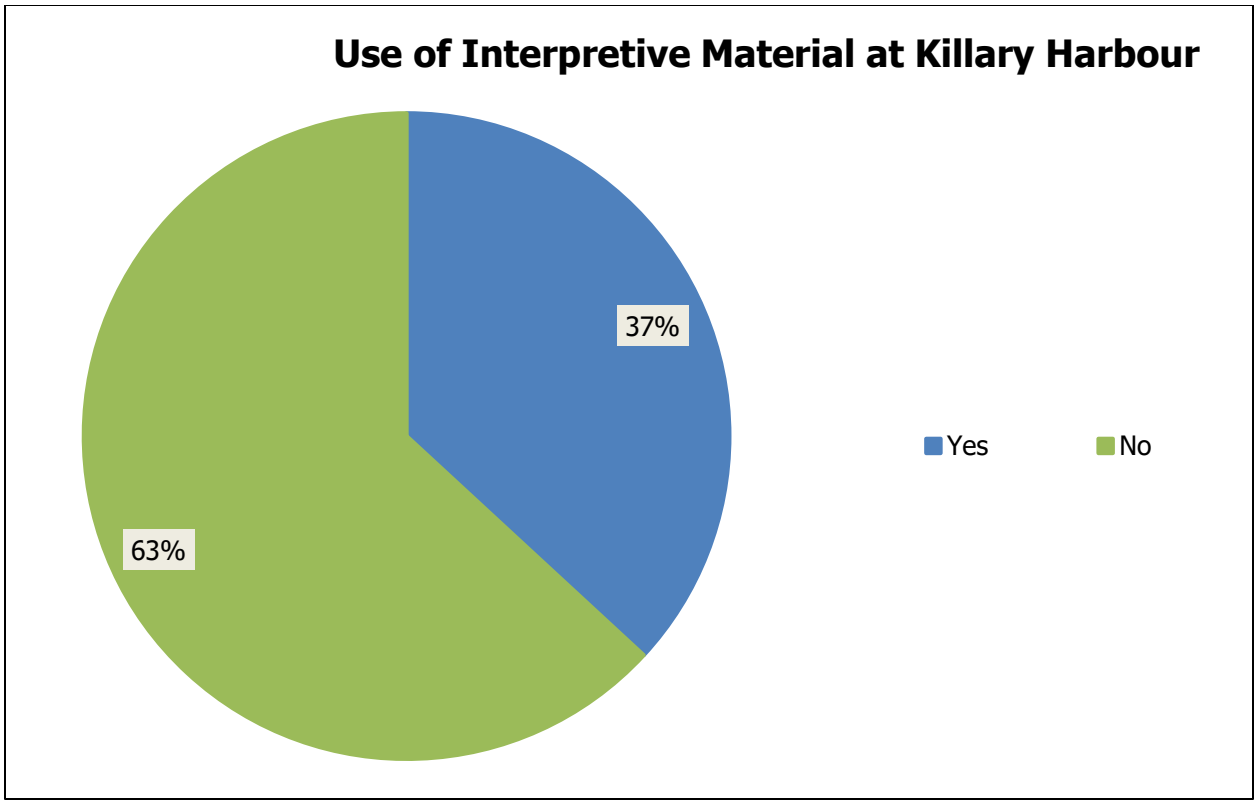


Figure 3.51 Use of Interpretive Material at Killary Harbour

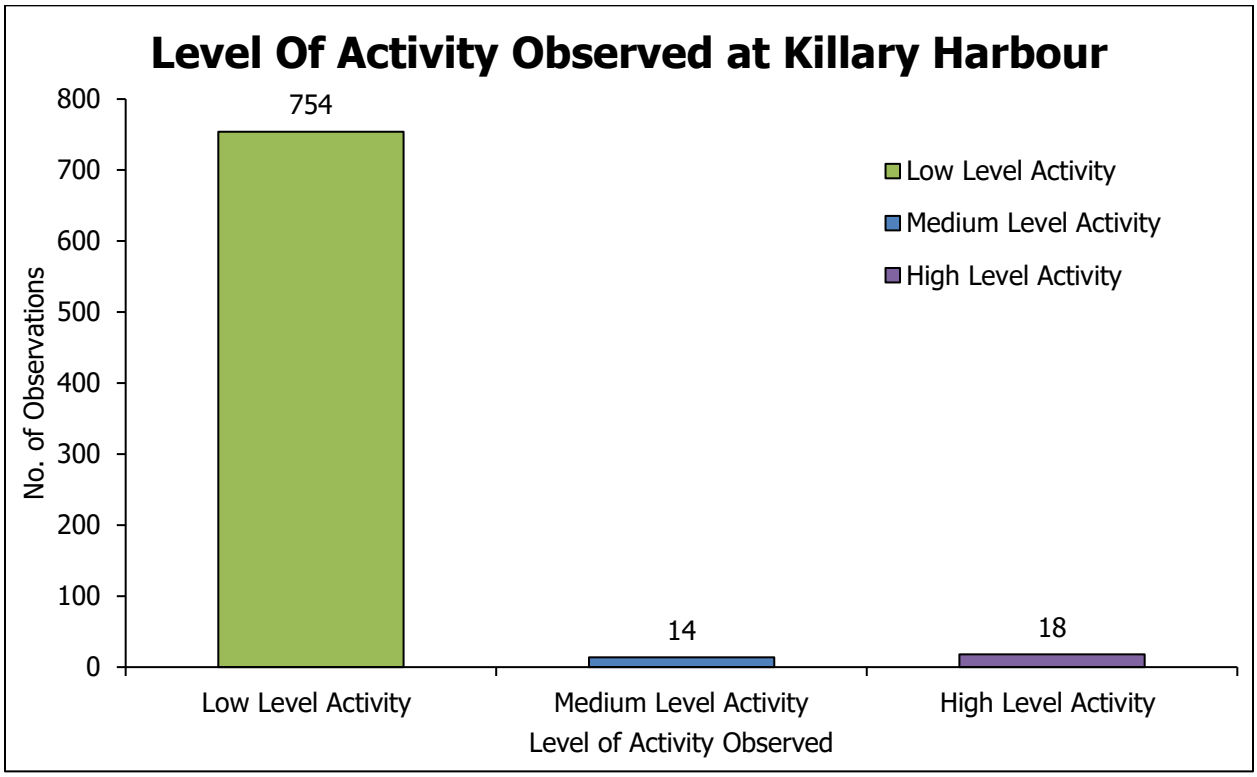


Figure 3.52 Level of Activity Observed at Killary Harbour

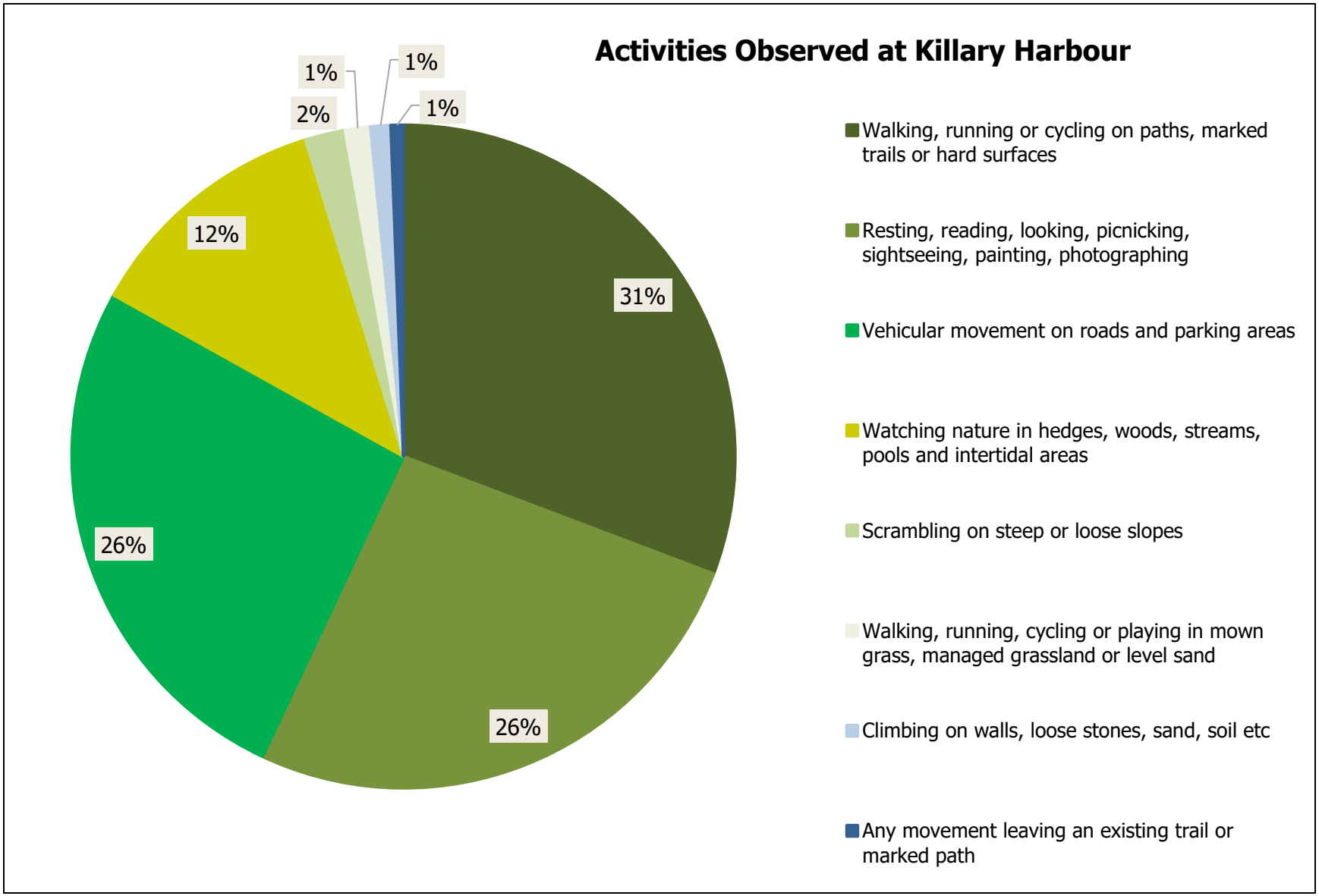


Figure 3.53 Range of Activities Observed at Killary Harbour

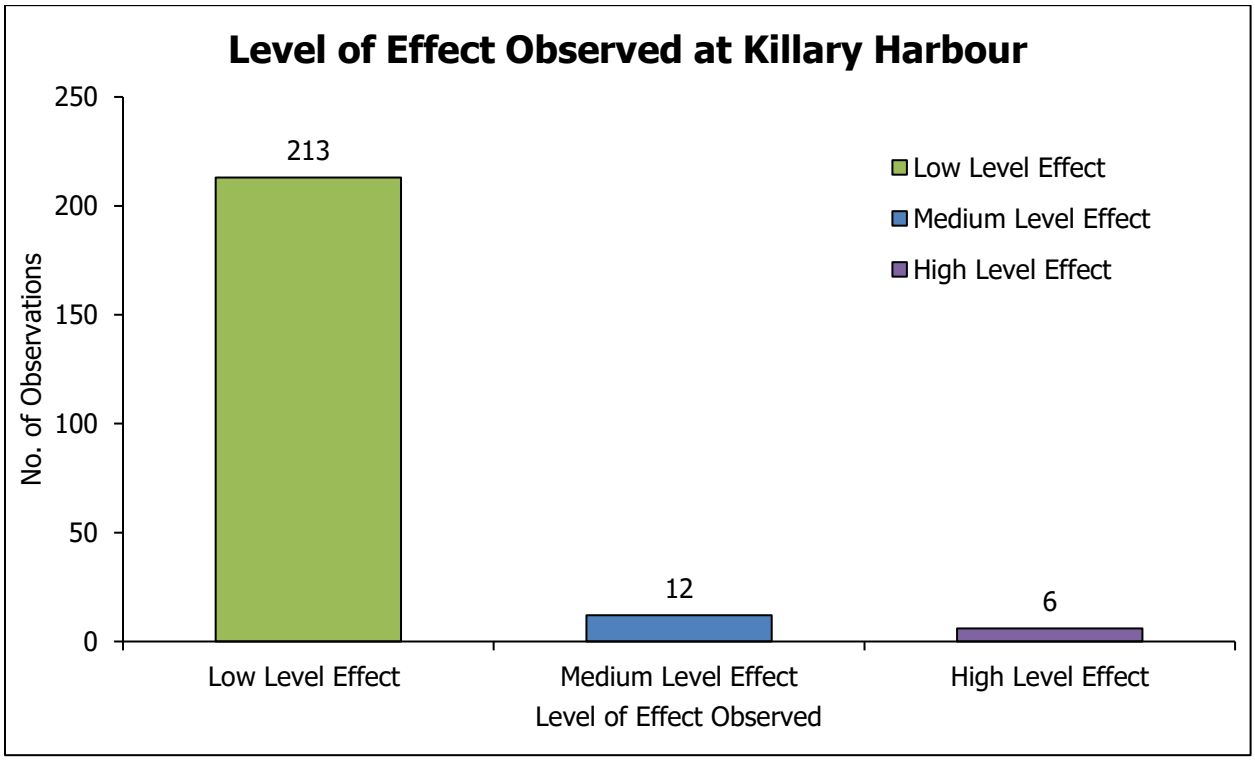


Figure 3.54 Level of Impact Observed at Killary Harbour

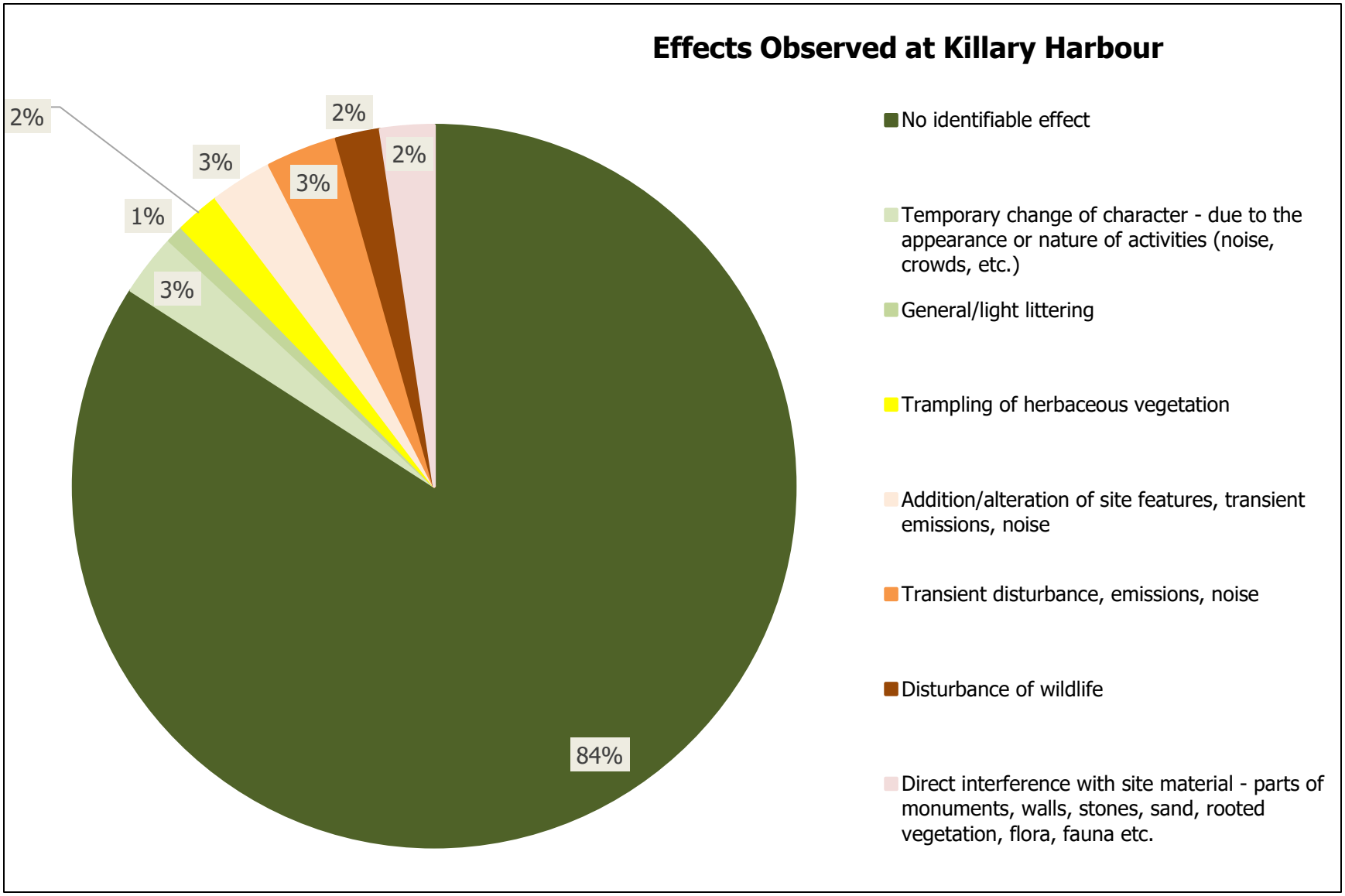


Figure 3.55 Impacts Observed at Killary Harbour

Table 3.8 Visitor Movement Zones Descriptions

Core Zone	Existing car parks, paved areas, viewing platforms, marked pathways, trails, tracks and managed grassland and areas where pathways, trails or roads exist. The majority of visitors remain in these zones.
Secondary Zone	Areas outside of existing car park, paved areas, marked pathways, trails, tracks and managed grassland. visitors are likely to traffic areas of grassland (in some cases farmland grazed by sheep or cattle), heath or bare rock, usually to get a better view of site attractions or to access trails at the site.
Tertiary Zone	Areas where no car park, paved areas, marked pathways, trails, tracks and managed grassland are identifiable and beyond the immediate boundaries of the site.

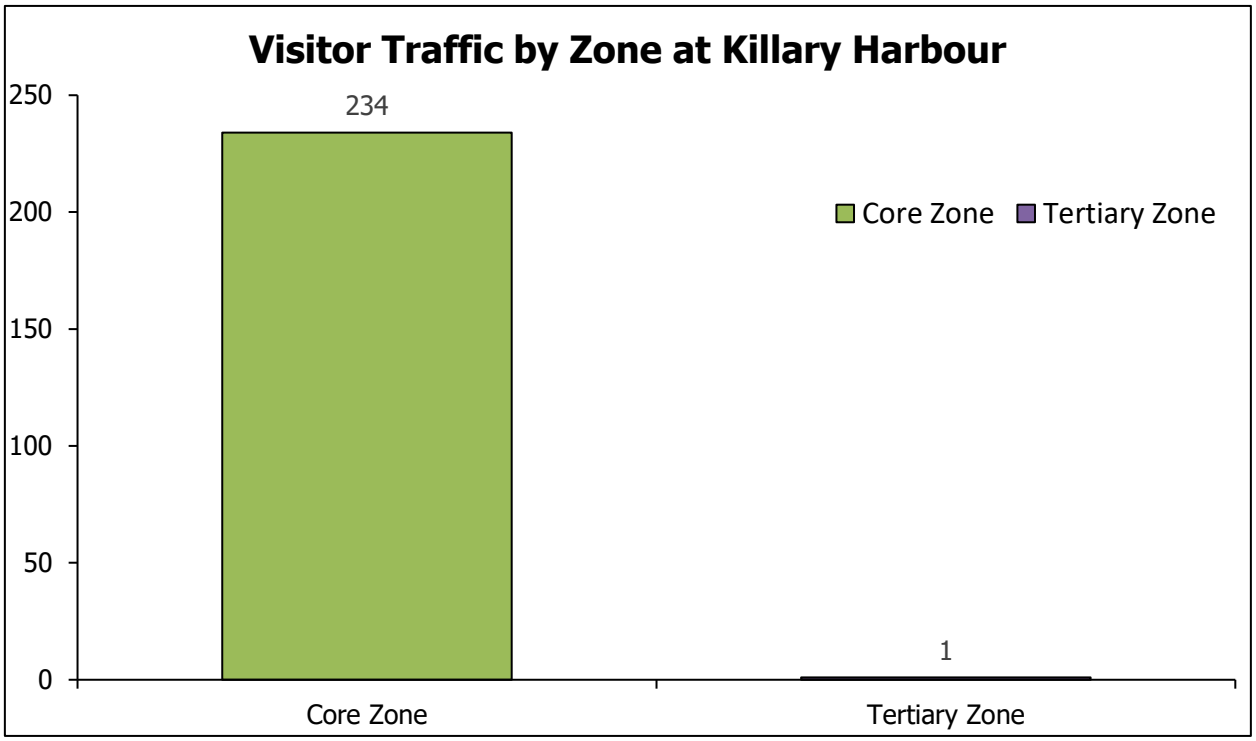


Figure 3.56 Zones trafficked by visitors at Killary Harbour

3.8.1 Analysis of Results and Visitor Movement Patterns

All the visitor movement records were within the Core zone at Killary Harbour (234 times) except for 1 record in the Tertiary zone due to water-based activities.

84% of visitors recorded no identifiable effect to the site. 10% of the effects from visitors were Medium level from noise/disturbance, water sports and flying of drones. 2% of visitors were recorded to have high-level effects from scrambling up steep areas and direct interference with on-site materials.

In addition, two groups of visitors caused sheep to become unsettled due to a high-level of noise.

Image 3.8 Visitor Movenment Zones at Killary Harbour

Downpatrick Head

EVIRONMENTAL SURVEYING AND MONITORING RESULTS

3.9 Downpatrick Head

Site Name: Downpatrick Head	**Date Surveyed:** 28th & 29th June
County: Mayo	**Landscape Type:** Rocky shore/peat/grassland in peninsular coastal context
Total no. of People: 416	**Average Duration of visitors on site:** 00:24:35
Site Description: Downpatrick Head is a headland located north-east of the village of Ballycastle in Co. Mayo. It is noted for its cliffs, coastal features including blow holes and the sea stack (Dún Briste), and its megalithic and geological interest. Downpatrick Head consists of a carpark with two smaller laybys south of the car park. The car park has capacity for approximately 30 cars. From here visitors can walk to Downpatrick Head. The site is grazed by sheep in all areas. The land is a privately-owned farm. The site has been developed to include a 'bund' and viewpoint around the larger of two blowholes. There is also glass panels and safety railing surrounding the blowhole. The smaller blowhole (near to the car park) has been covered by steel mesh allowing visitors to walk over it. **Upgrades to Site:** There have been no site upgrades at Downpatrick Head Discovery Point since 2015	

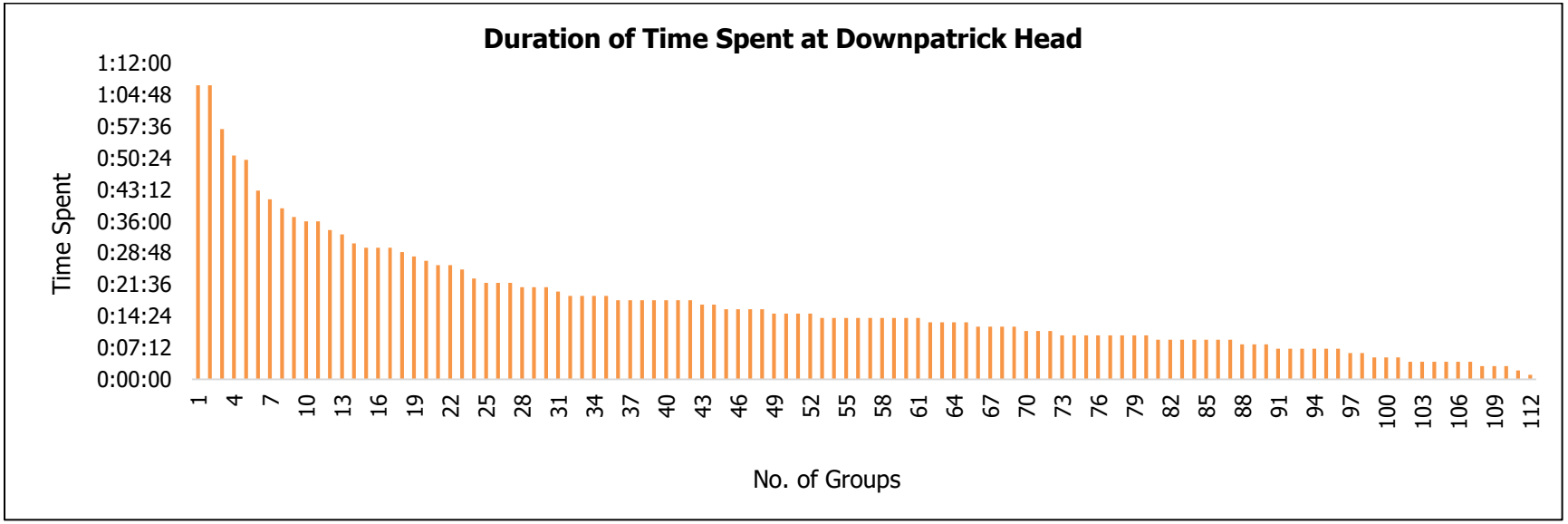


Figure 3.57 Duration Spent at Downpatrick Head [10]

[10] The graph represents 112 of 194 groups observed during the monitoring, the departure time of 82 groups were not recorded

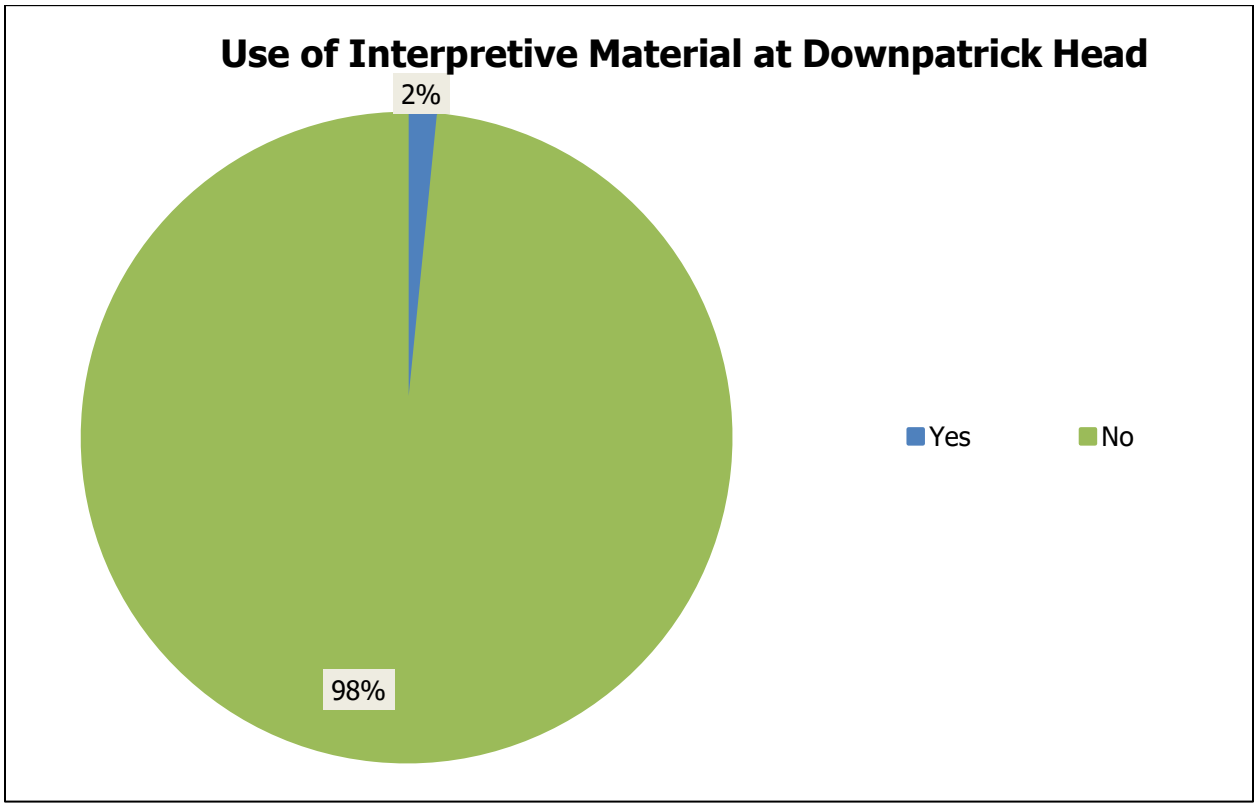


Figure 3.58 Use of Interpretive Material at Downpatrick Head

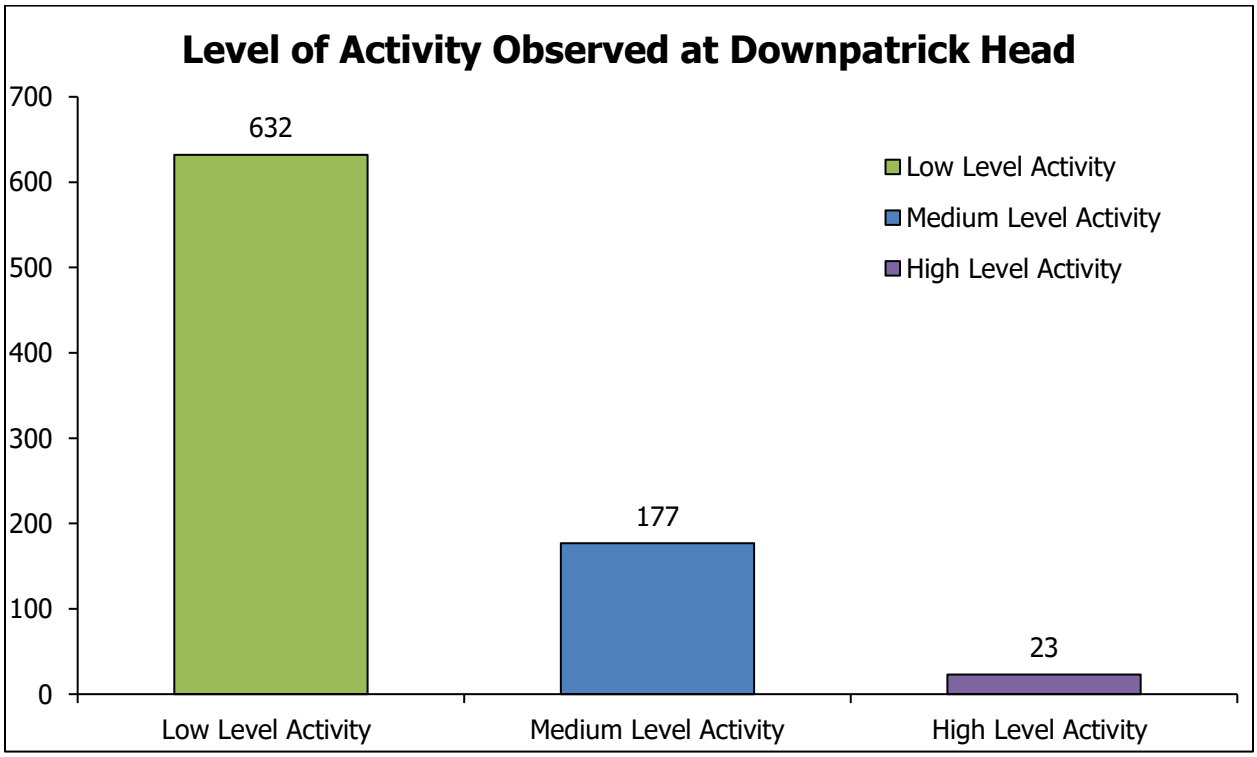


Figure 3.59 Level of Activity Observed at Downpatrick Head

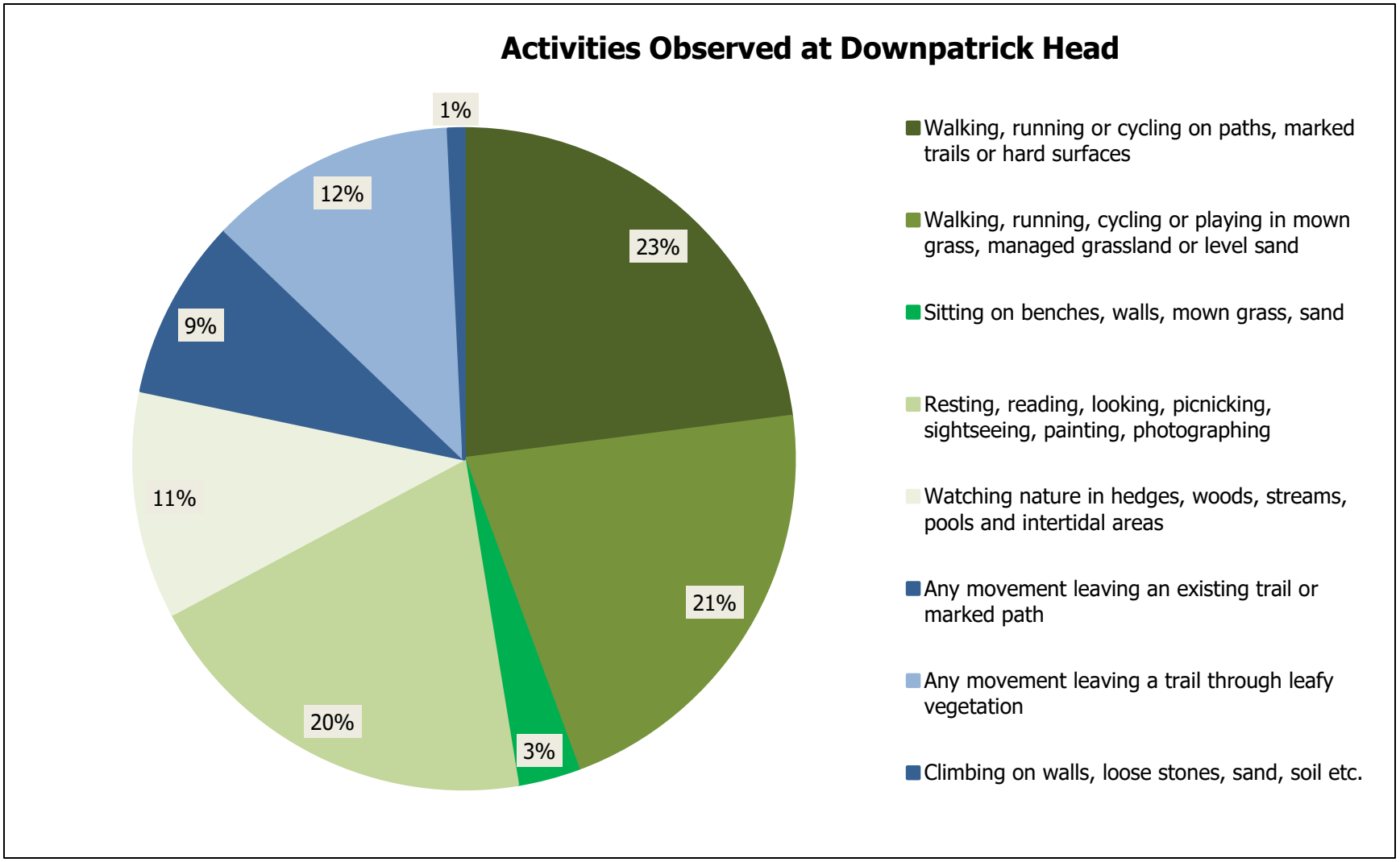


Figure 3.60 Range of Activities Observed at Downpatrick Head

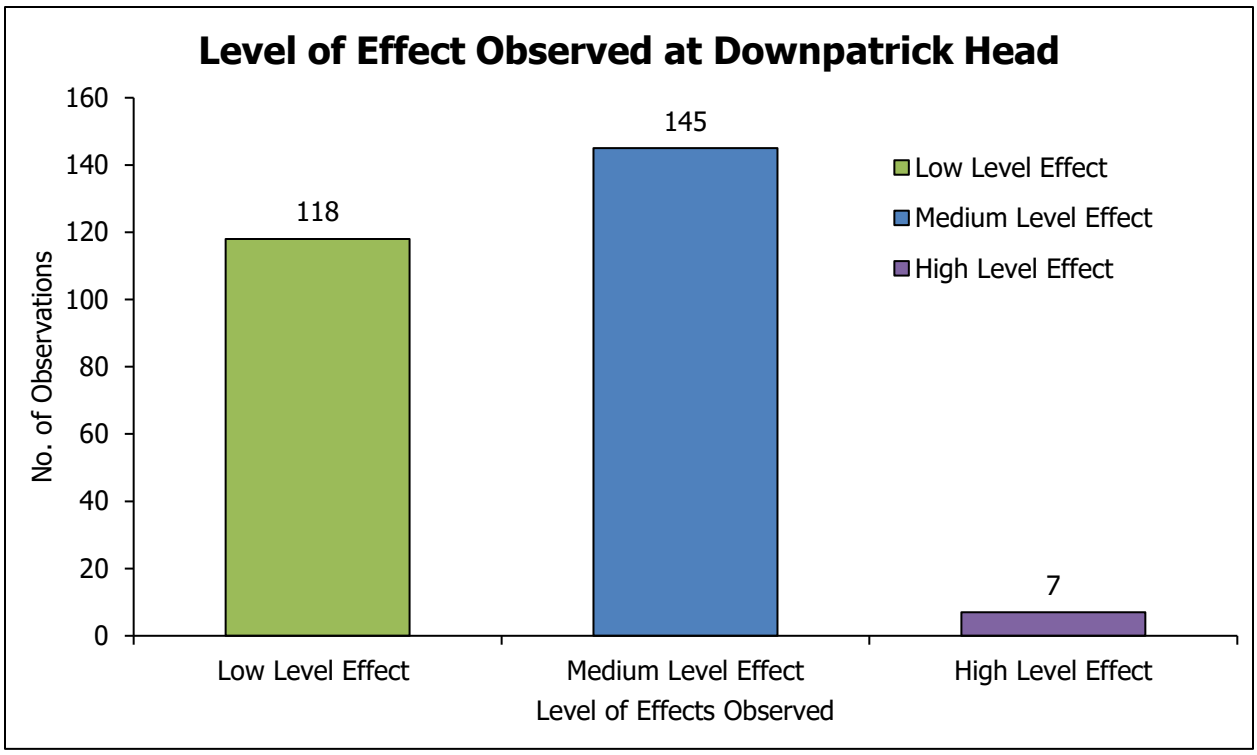


Figure 3.61 Level of Impact Observed at Downpatrick Head

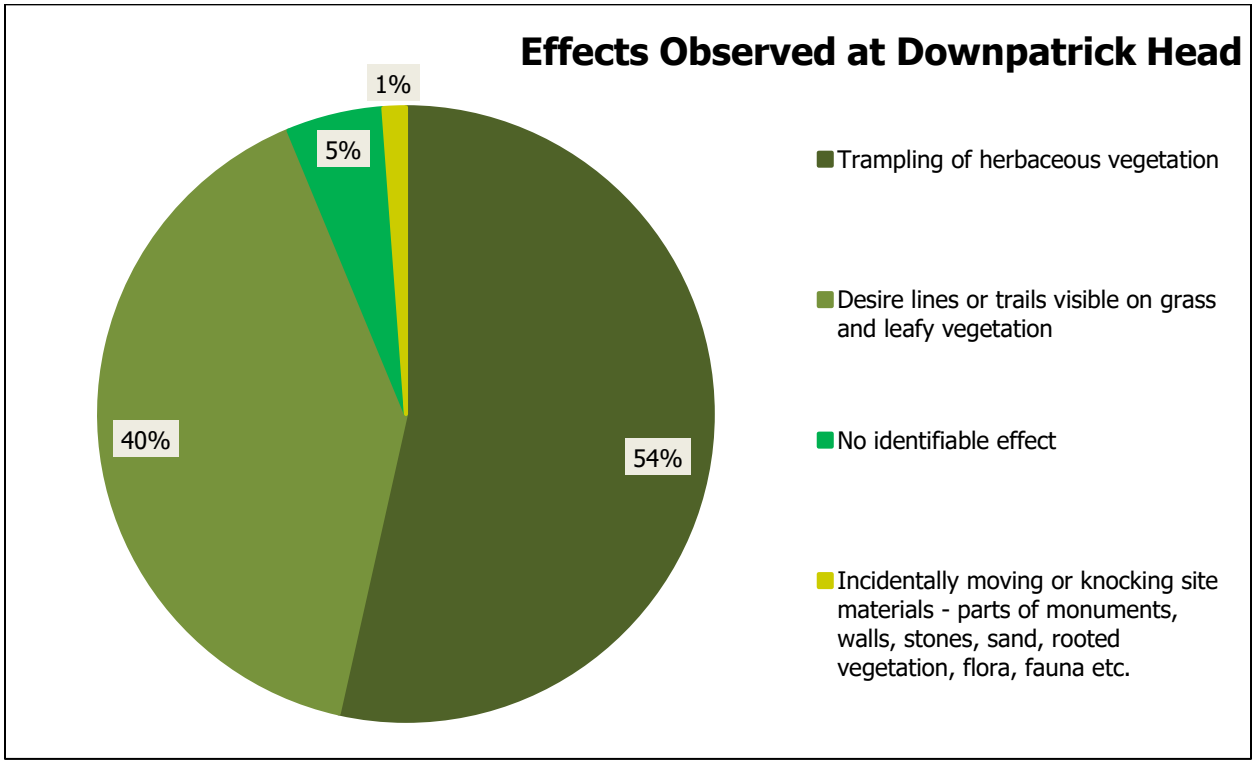


Figure 3.62 Impacts Observed at Downpatrick Head

Table 3.9 Visitor Movement Zones Descriptions

Core Zone	Existing car parks, paved areas, viewing platforms, marked pathways, trails, tracks and managed grassland and areas where pathways, trails or roads exist. The majority of visitors remain in these zones.
Secondary Zone	Areas outside of existing car park, paved areas, marked pathways, trails, tracks and managed grassland. visitors are likely to traffic areas of grassland (in some cases farmland grazed by sheep or cattle), heath or bare rock, usually to get a better view of site attractions or to access trails at the site.
Tertiary Zone	Areas where no car park, paved areas, marked pathways, trails, tracks and managed grassland are identifiable and beyond the immediate boundaries of the site.

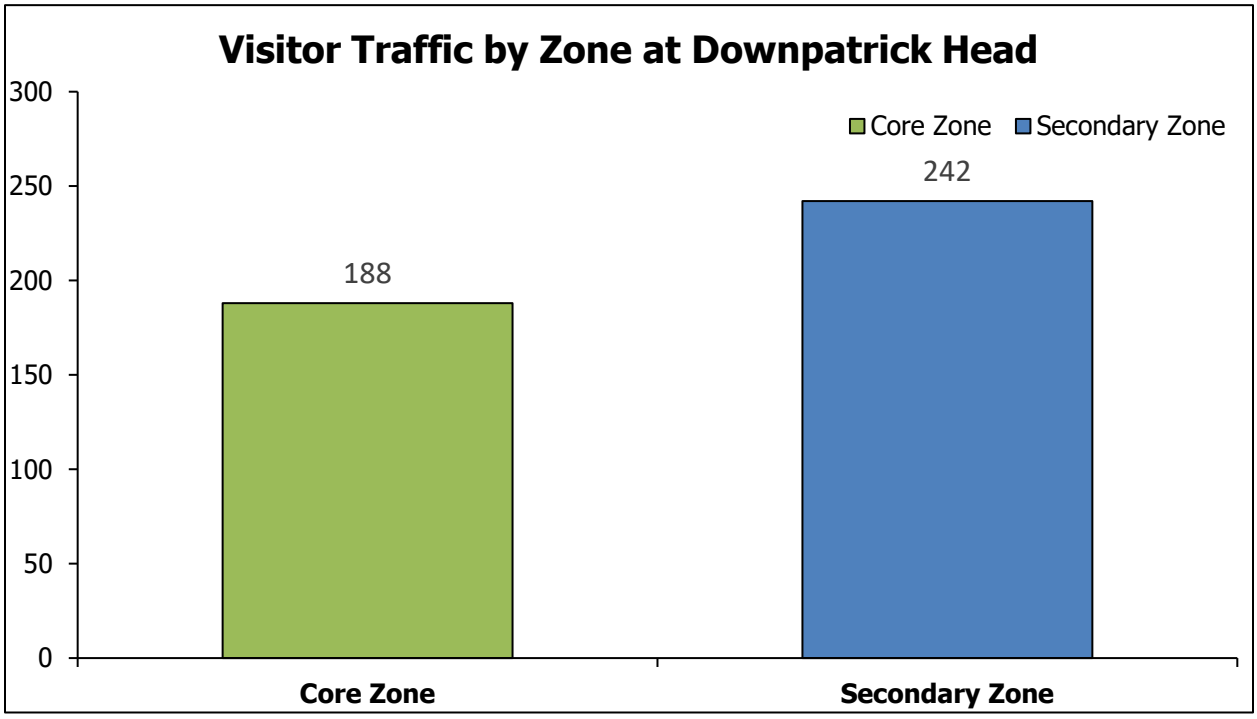


Figure 3.63 Zones trafficked by visitors at Downpatrick Head

3.9.1 Analysis of Results

18% of the visitor movements observed were recorded within the tertiary zone. More than half of all visitor movements (56%) were outside of the core movement areas.

55% of visitors where observed to have a medium level effect to the site. This resulted from groups trampling herbaceous vegetation with one being observed climbing on the stone church foundations. 44% of visitors had no identifiable effect to the site. The remaining 1% had a high-level effect occurring from a member of a group picking flowers along the cliff edge.

Image 3.10 Visitor Movement Zones at Downpatrick Head

Keem Strand

EVIRONMENTAL SURVEYING AND MONITORING RESULTS

3.10 Keem Strand

Site Name: Keem Strand	**Date Surveyed:** 30th June & 1st July
County: Mayo	**Landscape Type:** Soft shore/beach in peninsular coastal context
Total no. of People: 727	**Average Duration of visitors on site:** 01:20:00
Site Description: Keem Strand is a rural and sheltered beach surrounded by cliffs on Ireland's largest island - Achill Island. It can be found at the head of a valley between the cliffs of Benmore to the west and Croaghaun Mountain on the east on Achill Island. Follow the Atlantic Drive before turning north towards the Golden Strand. Sheltering under Slievemore Mountain, you can wander through a strange unnamed linear settlement, known simply as the Deserted village. Keem Strand is located within the Croaghaun Slievemore SAC. The site is a designated as an SAC for a number of habitats and species listed on Annex I and II of the E.U. Toilet and car parking facilities are located north of the site. There is a life guard hut, a van selling snacks and a container with facilities for kayaking present in the lower car park. **Upgrades to Site:** There have been no site upgrades at Keem Strand Discovery Point since 2015	

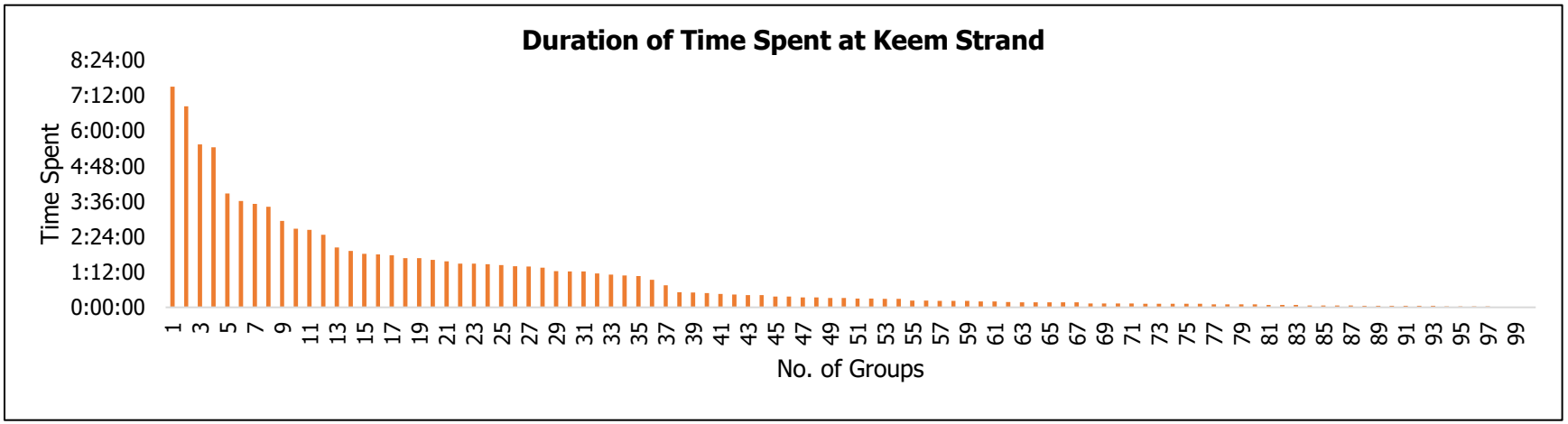


Figure 3.64 Duration Spent at Keem Strand[11]

[11] The graph represents 101 of the 292 groups observed during the surveys. The low yield of the departure times is due to the nature of the site

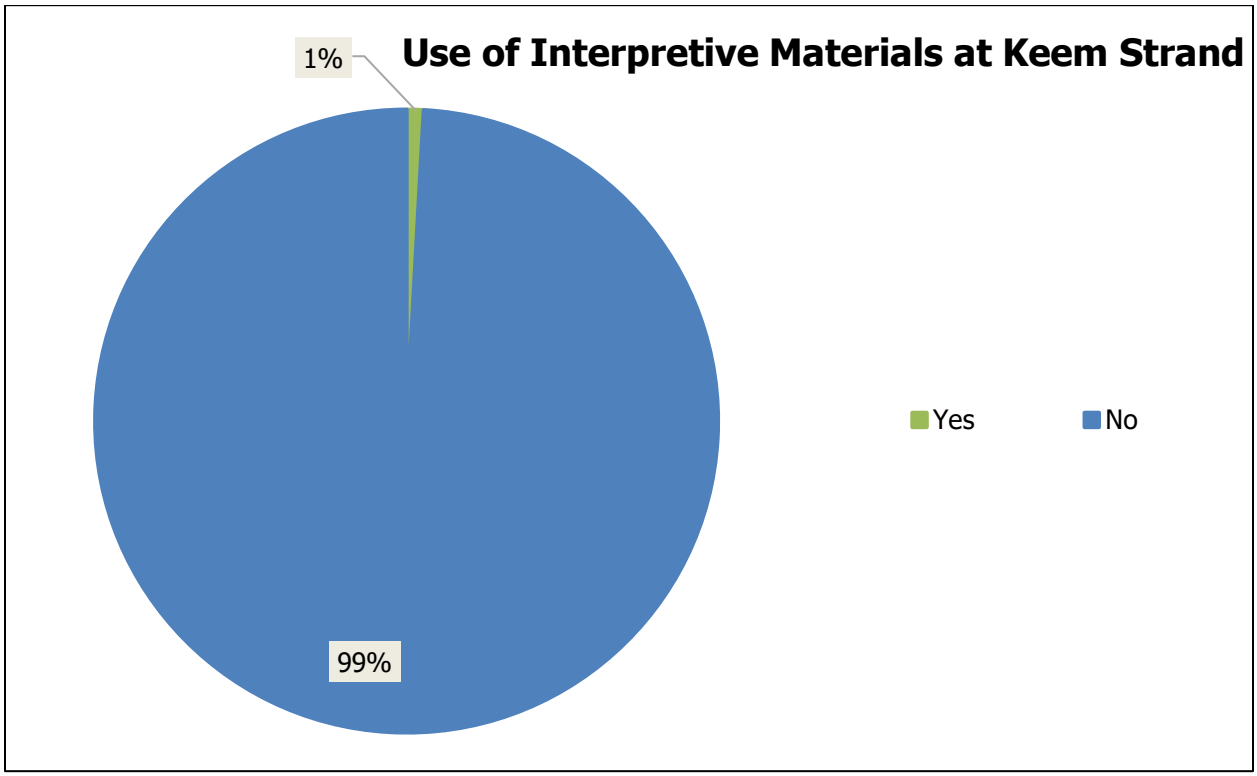


Figure 3.65 Use of Interpretive signs at Keem Strand

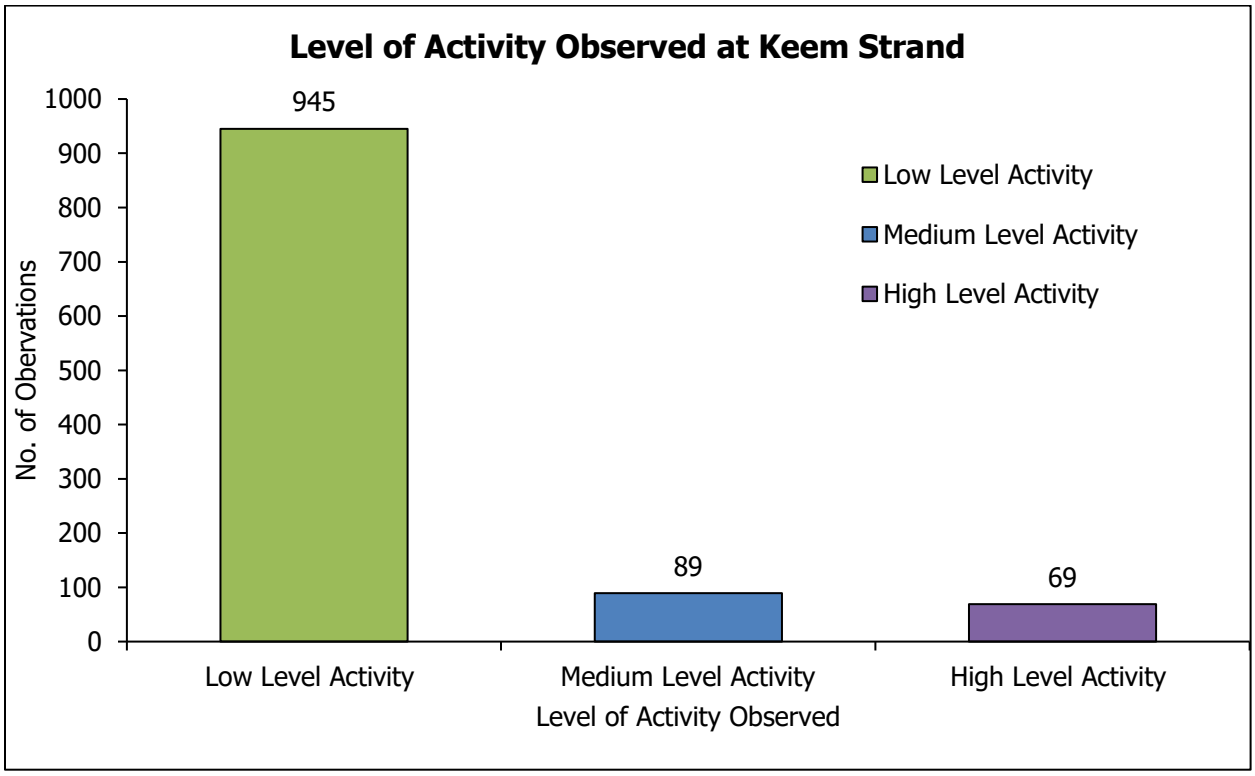


Figure 3.66 Level of Activity Observed at Keem Strand

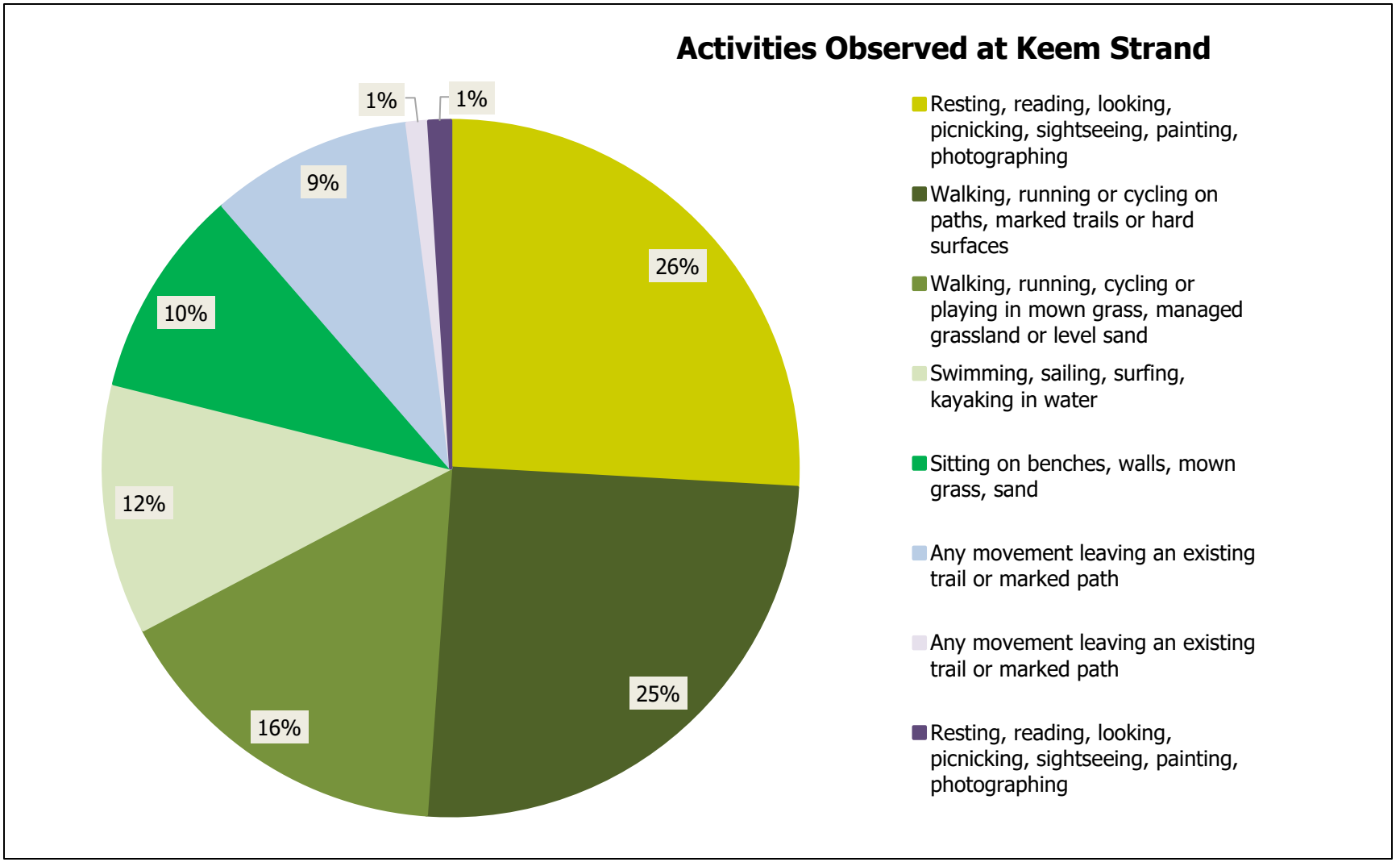


Figure 3.67 Range of Activities Observed at Keem Strand

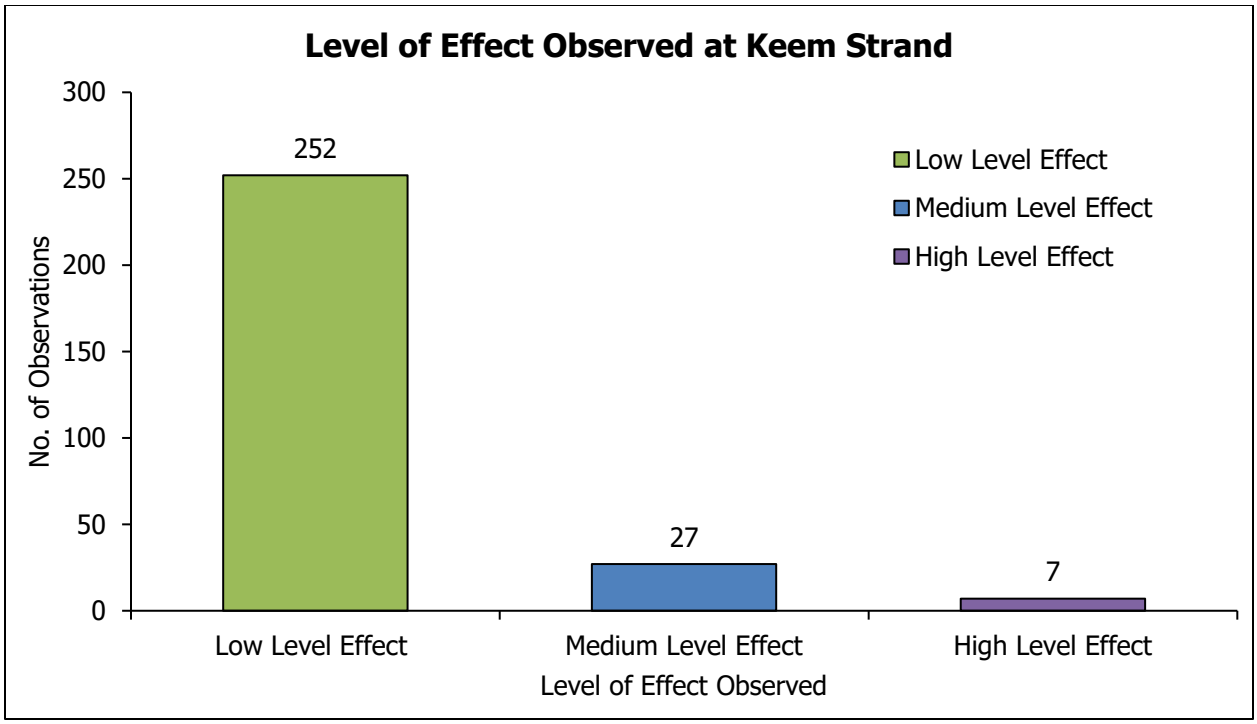


Figure 3.68 Level of Impact Observed at Keem Strand

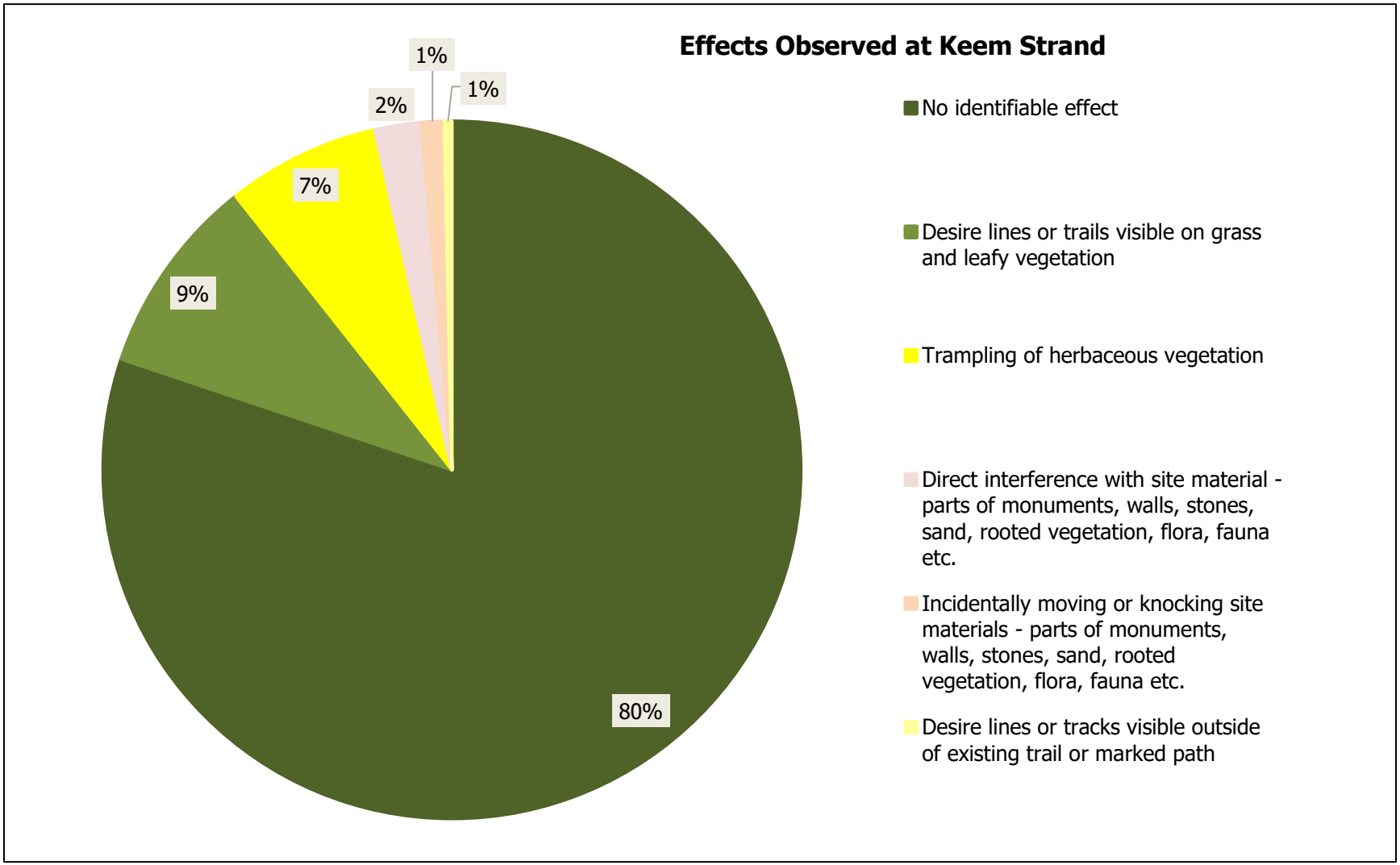


Figure 3.69 Impacts Observed at Keem Strand

Table 3.10 Visitor Movement Zones Descriptions

Core Zone	Existing car parks, paved areas, viewing platforms, marked pathways, trails, tracks and managed grassland and areas where pathways, trails or roads exist. The majority of visitors remain in these zones.
Secondary Zone	Areas outside of existing car park, paved areas, marked pathways, trails, tracks and managed grassland. visitors are likely to traffic areas of grassland (in some cases farmland grazed by sheep or cattle), heath or bare rock, usually to get a better view of site attractions or to access trails at the site.
Tertiary Zone	Areas where no car park, paved areas, marked pathways, trails, tracks and managed grassland are identifiable and beyond the immediate boundaries of the site.

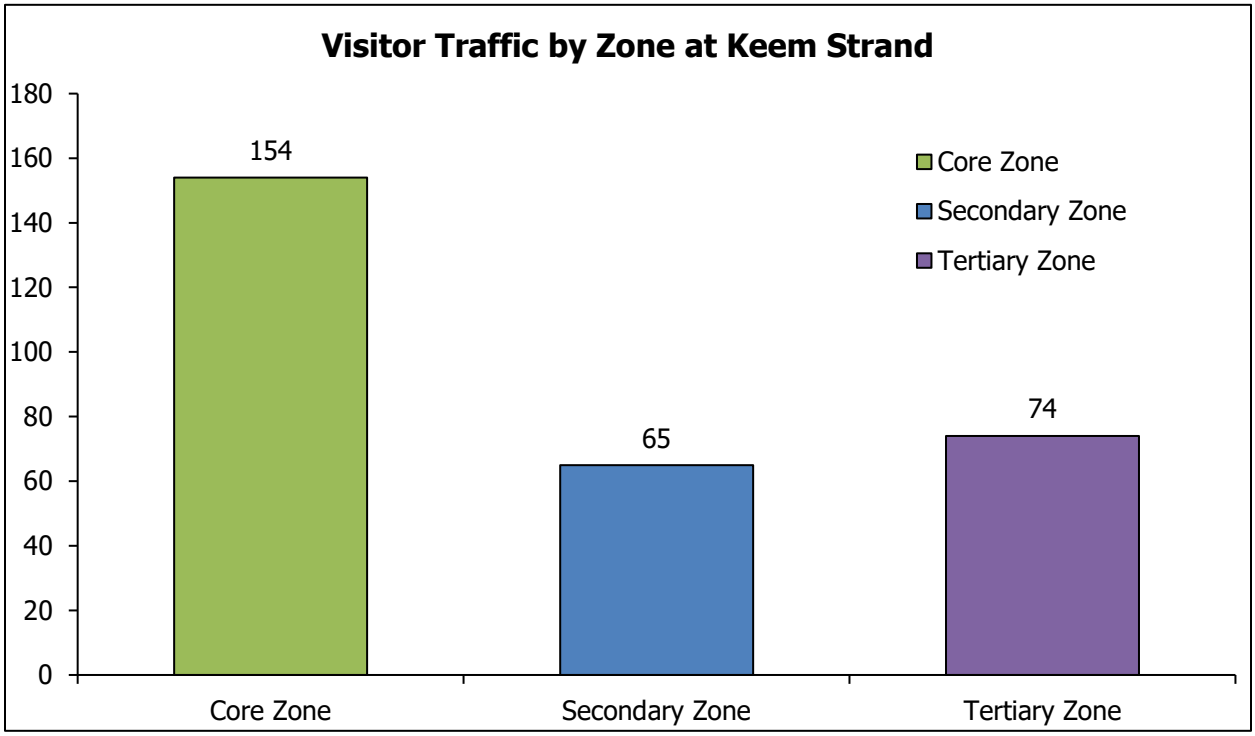


Figure 3.70 Zones trafficked by visitors at Keem Strand

3.10.1 Analysis of Results and Visitor Movement Patterns

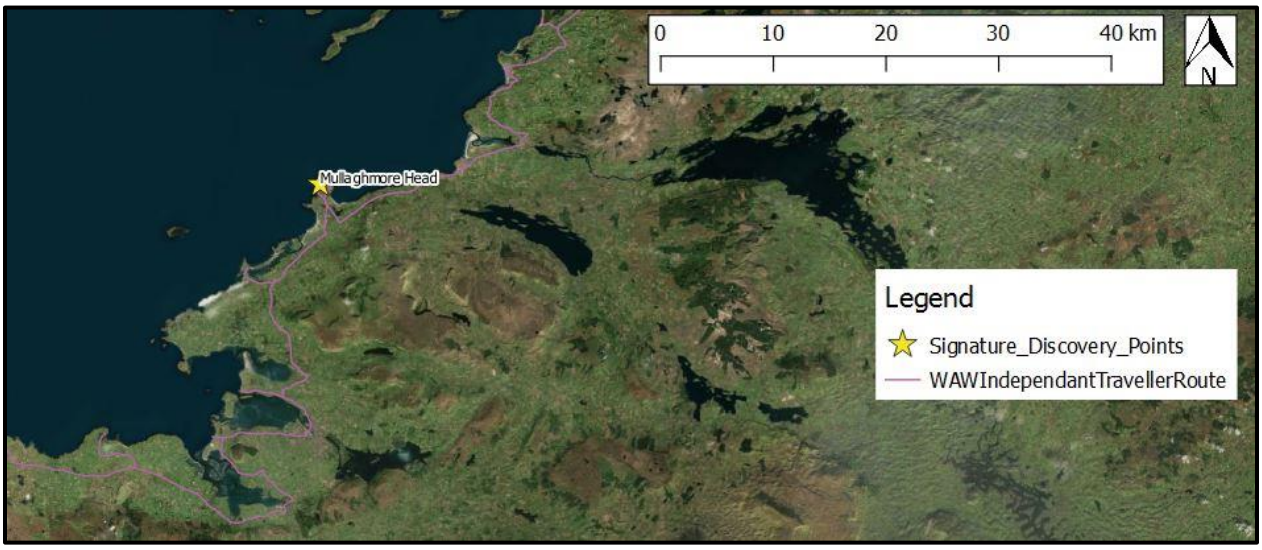
All three zones where trafficked by visitors to Keem Strand. The core zone received most movement (154 times) while the Secondary zone was trafficked 65 times. The Tertiary zone had a high-level (74 times) of movement because of visitors using the steep maritime grassland areas/fixed dunes to access the beach.

89% of visitors to Keem Strand had low or no identifiable effect to the site. 9% had a medium level effect resulting from a group leaving the marked path to cut through long grass leaving desire lines. 2% of the high-level effects resulted from the physical alteration of natural streams entering the sea through damning.

Image 3.11 Visitor Movement Zones at Keem Strand

Mullaghmore Head

EVIRONMENTAL SURVEYING AND MONITORING RESULTS



3.11 Mullaghmore Head

Site Name: Mullaghmore Head	**Date Surveyed:** 7th & 8th July
County: Sligo	**Landscape Type:** Rocky shore/grassland in a coastal plain context
Total no. of People: 874	**Average Duration of visitors on site:** 1:53:52
Site Description: Mullaghmore Head is a headland located north of the village of Mullaghmore in Co. Sligo. The area is noted for its surfing waves, the historical interest of Classiebawn castle and the skyline dominated by Ben Bulben Mountain. Mullaghmore Head is located within the Bunduff Lough and Machair/Trawalua/Mullaghmore SAC. The site is a designated as an SAC for several habitats and species listed on Annex I and II of the E.U. Habitats Directive. The site comprises of a large layby accommodating approximately 10 cars. A smaller layby east of the site was also observed during the study. This layby can accommodate less than five cars. **Upgrades to Site:** There have been no site upgrades at Mullaghmore Head Discovery Point since 2015	

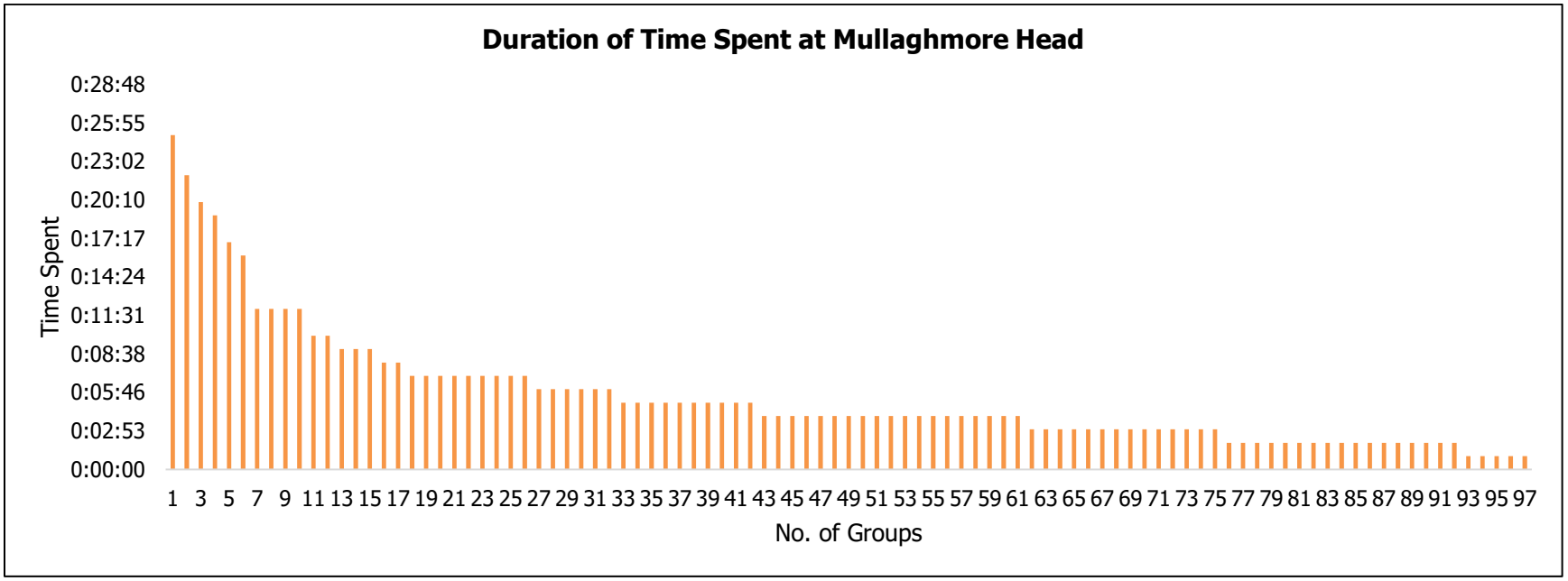


Figure 3.71 Duration Spent at Mullaghmore Head[12]

[12] The graph represents 97 of the 215 groups observed on site due to departure times not being recorded, this is due to the nature of the site.

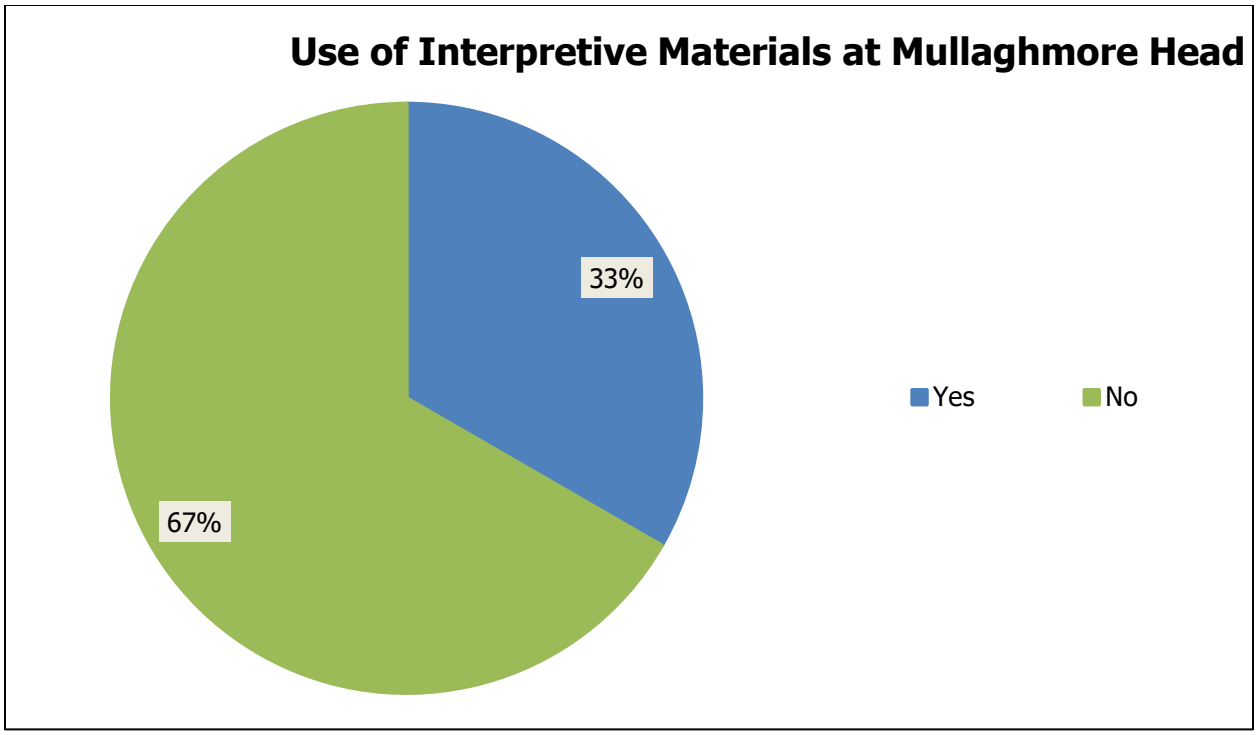


Figure 3.72 Use of Interpretive Material at Mullaghmore Head

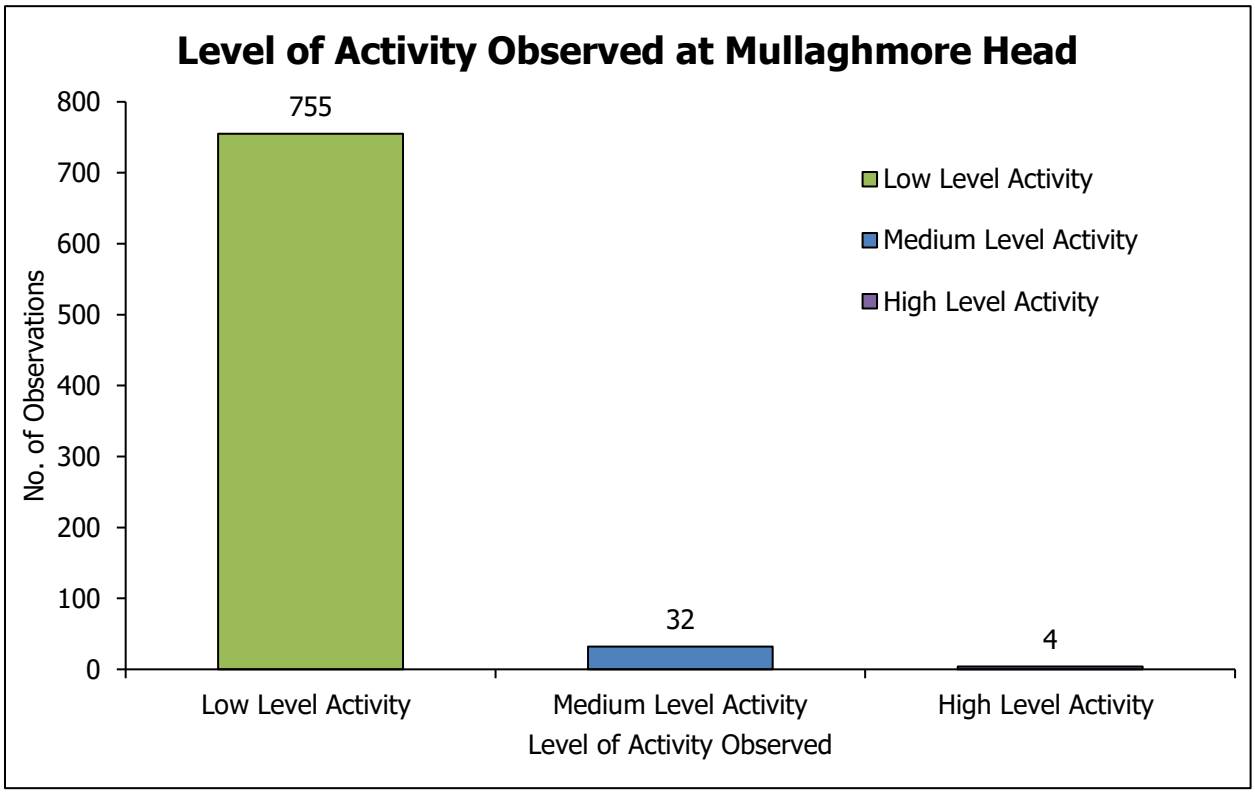


Figure 3.73 Level of Activity Observed at Mullaghmore Head

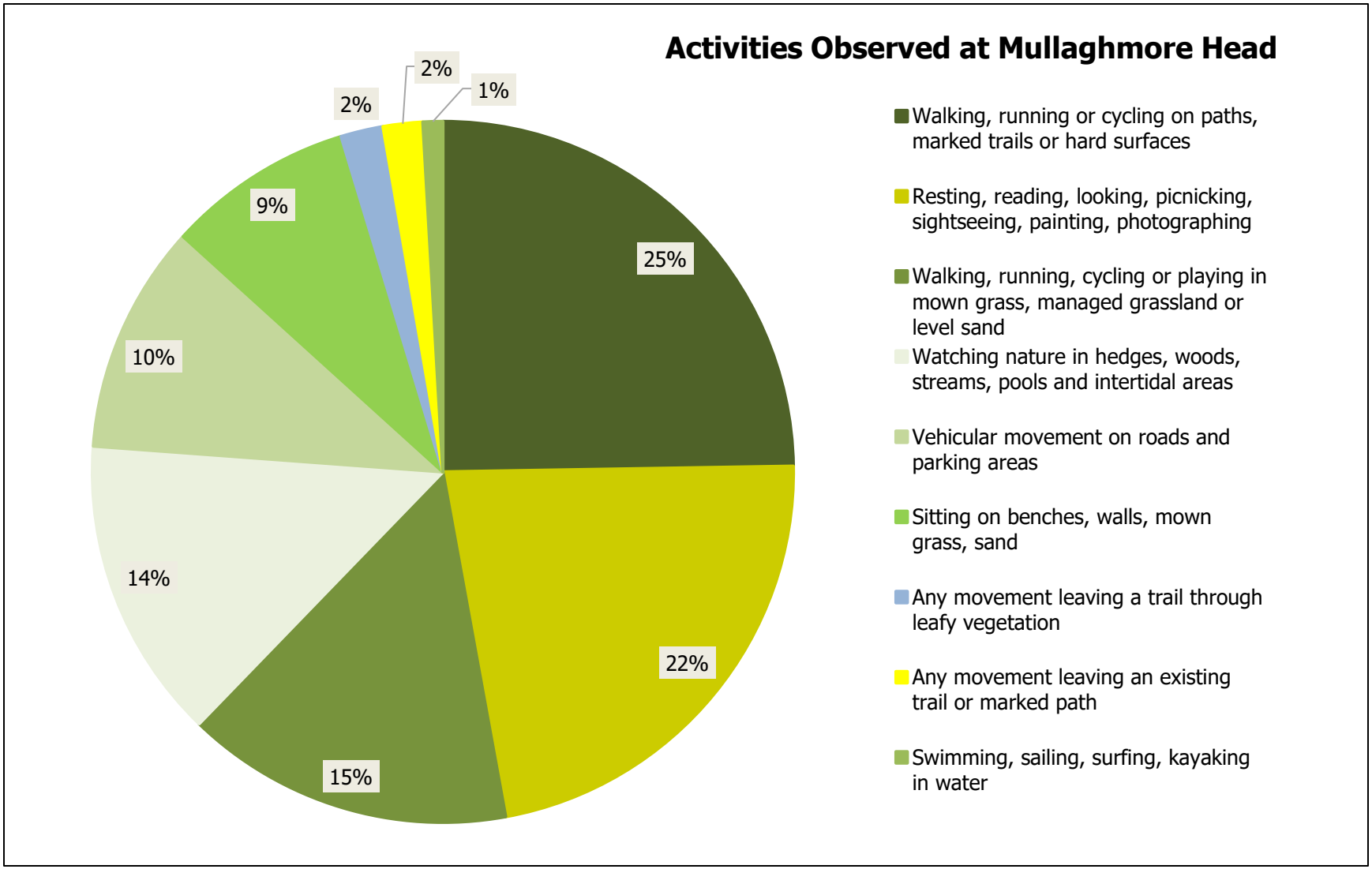


Figure 3.74 Range of Activities Observed at Mullaghmore Head

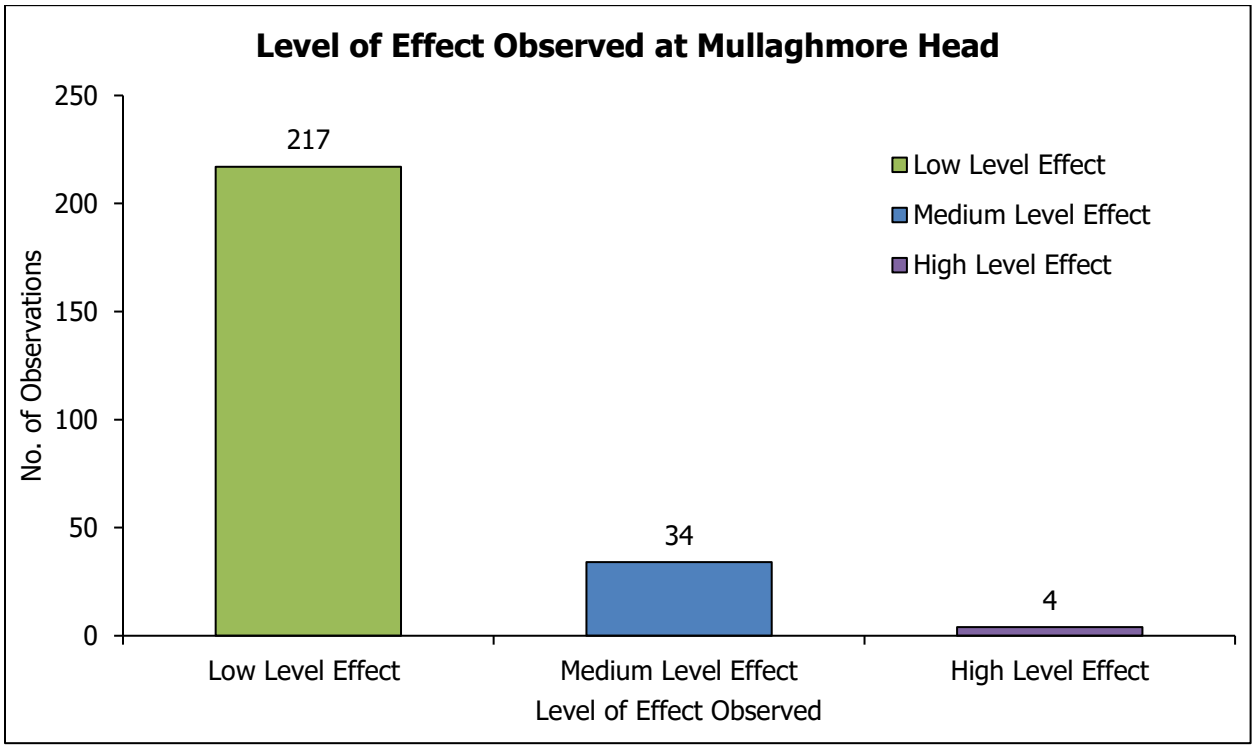


Figure 3.75 Level of Effects Observed at Mullaghmore Head

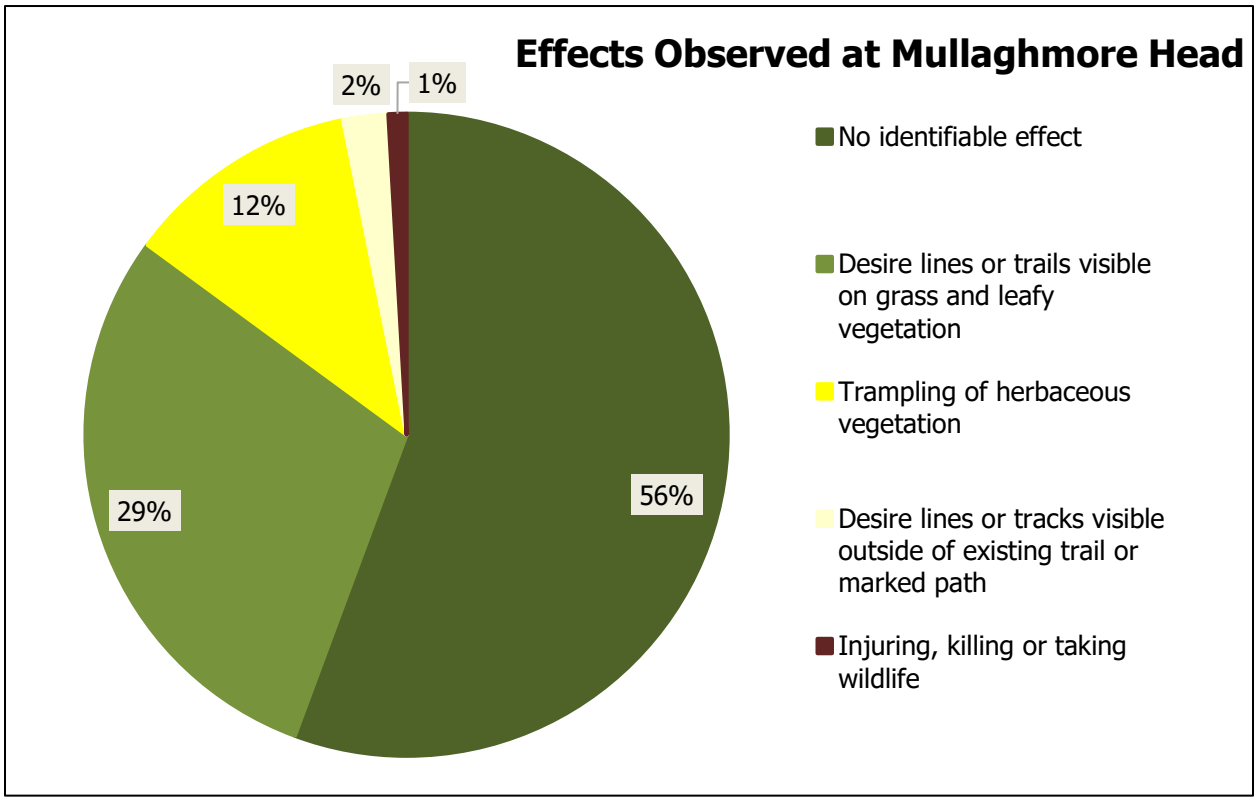


Figure 3.76 Range of Effects Observed at Mullaghmore Head

Table 3.11 Visitor Movement Zones Descriptions

Core Zone	Existing car parks, paved areas, viewing platforms, marked pathways, trails, tracks and managed grassland and areas where pathways, trails or roads exist. The majority of visitors remain in these zones.
Secondary Zone	Areas outside of existing car park, paved areas, marked pathways, trails, tracks and managed grassland. visitors are likely to traffic areas of grassland (in some cases farmland grazed by sheep or cattle), heath or bare rock, usually to get a better view of site attractions or to access trails at the site.
Tertiary Zone	Areas where no car park, paved areas, marked pathways, trails, tracks and managed grassland are identifiable and beyond the immediate boundaries of the site.

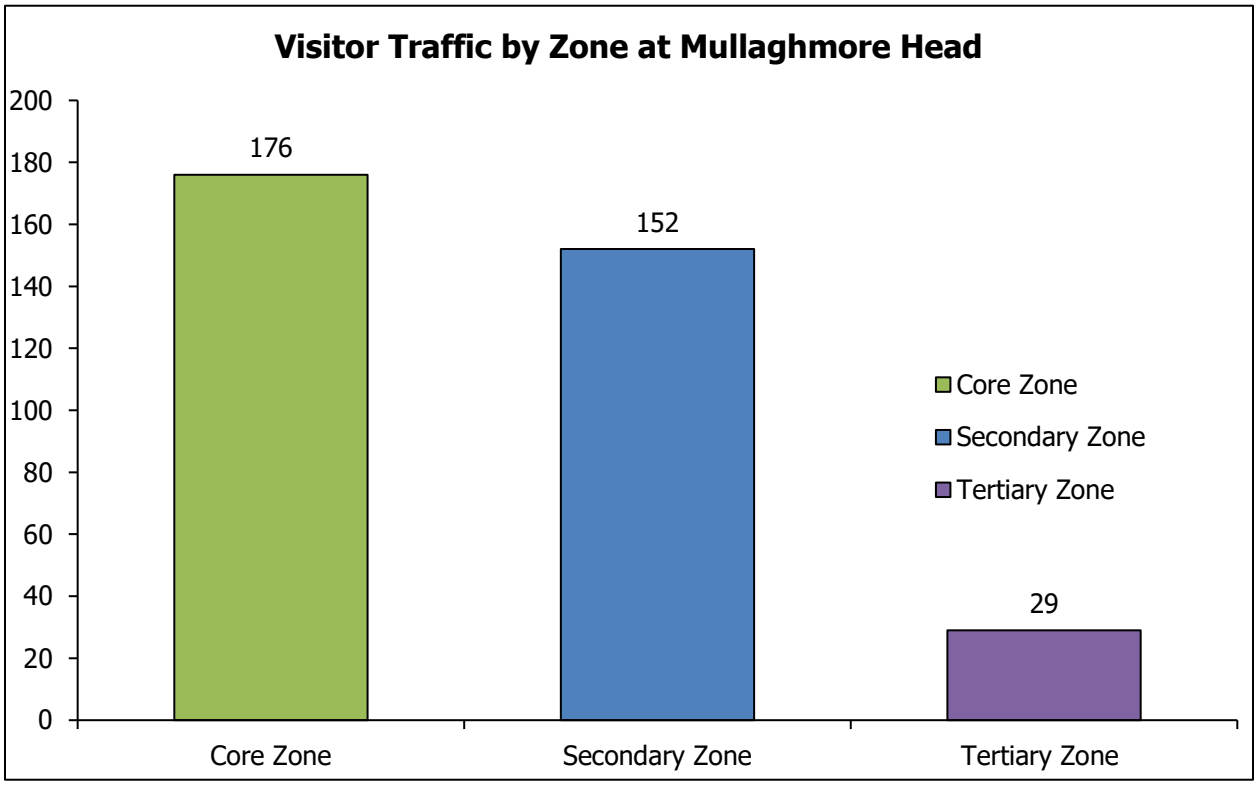


Figure 3.77 Zones trafficked by visitors at Mullaghmore Head

3.11.1 Analysis of Results and Visitor Movement Patterns

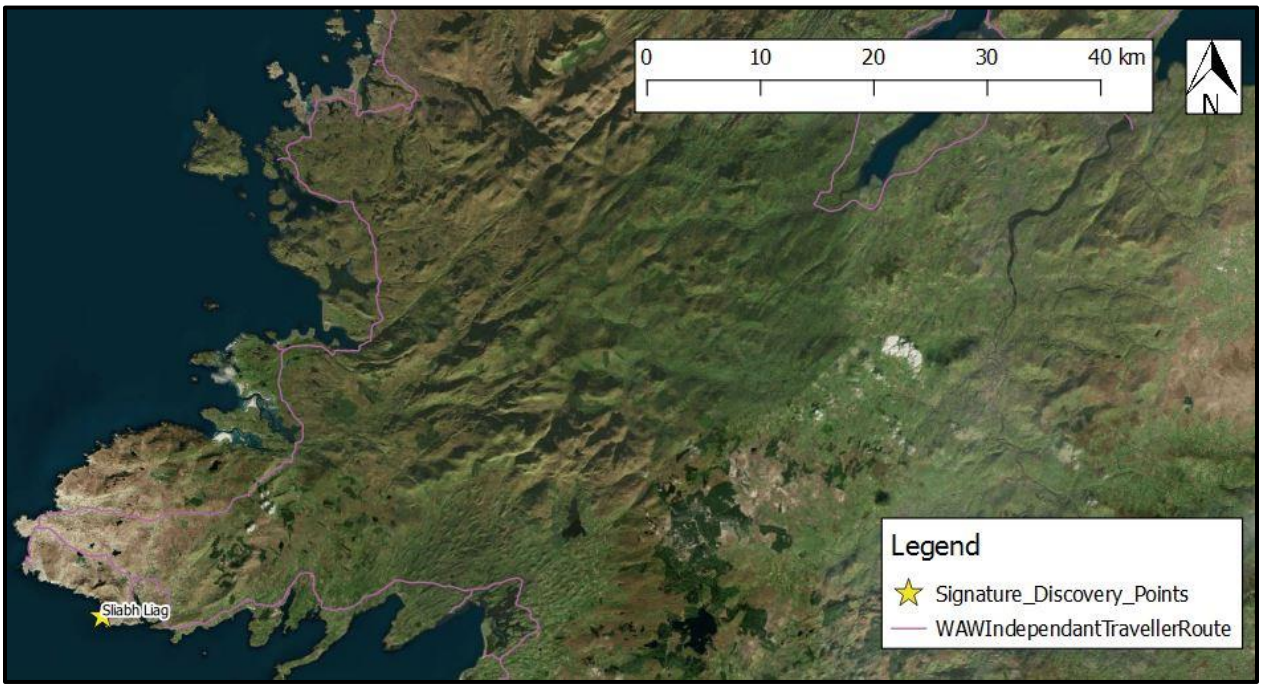
The visitor movement data showed that roughly 50% of all visitor movement at Mullaghmore Head is within the Core zone (trafficked 176 times). 42.5% of the visitor movement data was recorded along the headland (Secondary Zone) this occurred 156 times. The Tertiary zone was trafficked by visitors 29 times during the survey.

85% of visitors to Mullaghmore head were recorded to engage in low level activities that resulted in no effects. Medium level effects where observed on site (14%) resulting from two cars driving onto long grass. 1% of visitors were observed to have high-level effects due to fishing activities.

Image 3.12 Visitor Movement Zones at Mullaghmore Head

Sliabh Liag

EVIRONMENTAL SURVEYING AND MONITORING RESULTS



3.12 Sliabh Liag

Site Name: Sliabh Liag	**Date Surveyed:** 5th & 6th July
County: Donegal	**Landscape Type:** Montane/upland/peat in peninsular coastal context
Total no. of People:1072	**Average Duration of visitors on site:** 0:06:11
Site Description: Slieve League cliffs are located on the north-west coast of Donegal approximately five kilometres from the town of Carrick. They are among the highest, accessible sea cliffs in Europe. Slieve League is located within the Slieve League SAC and the West Donegal Coast SPA. The site is a designated as an SAC for a number of habitats and species listed on Annex I and II of the E.U. Habitats Directive. The site is also designated as an SPA for the protection of endangered species of birds listed in the European Union Directive on the Conservation of Wild Birds. The area is also of significant geological interest. The site comprises of a lower car park and toilet block (under construction) and an upper car park facilitating approximately 20 cars. There is a walking trail towards the summit of Sliabh Liag at the site. Visitor facilities include a large viewing platform, interpretation panels, picnic benches and formal paths. **Upgrades to Site:** During the 2015 survey a new toilet block was under construction. The 2018 survey noted the works being completed with good management and upkeep. A cliff top walkway is under construction towards the peak of Sliabh Liag.	

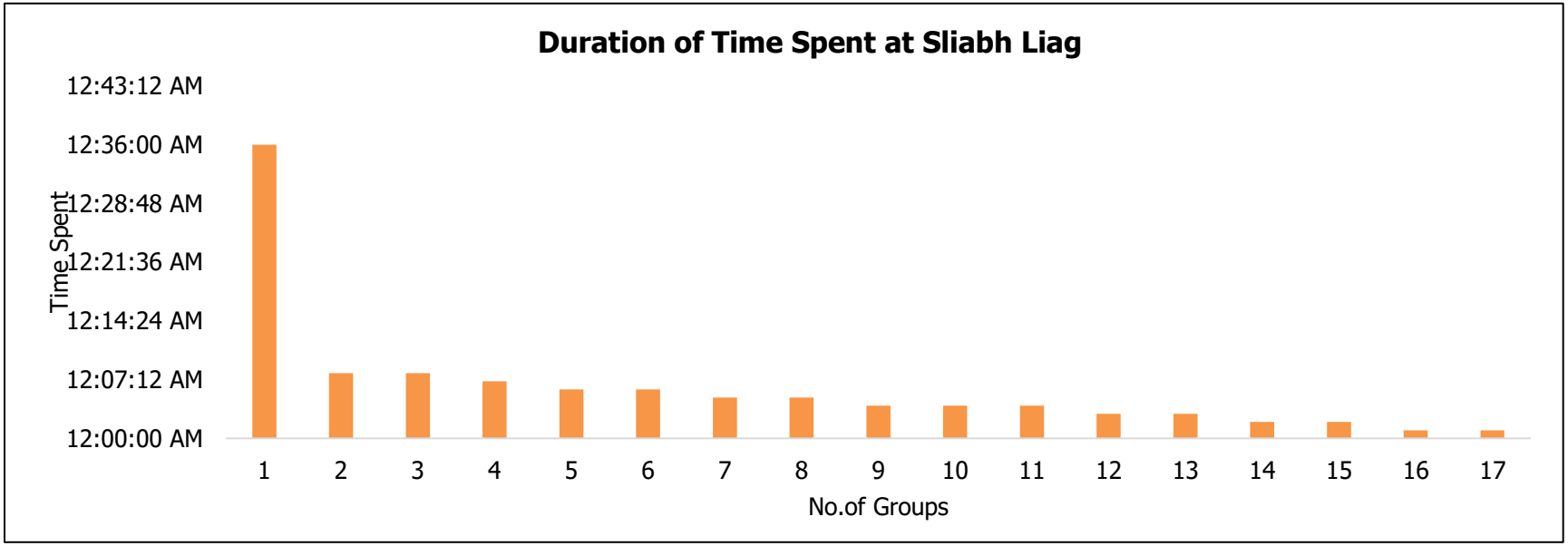


Figure 3.78 Duration Spent at Sliabh Liag

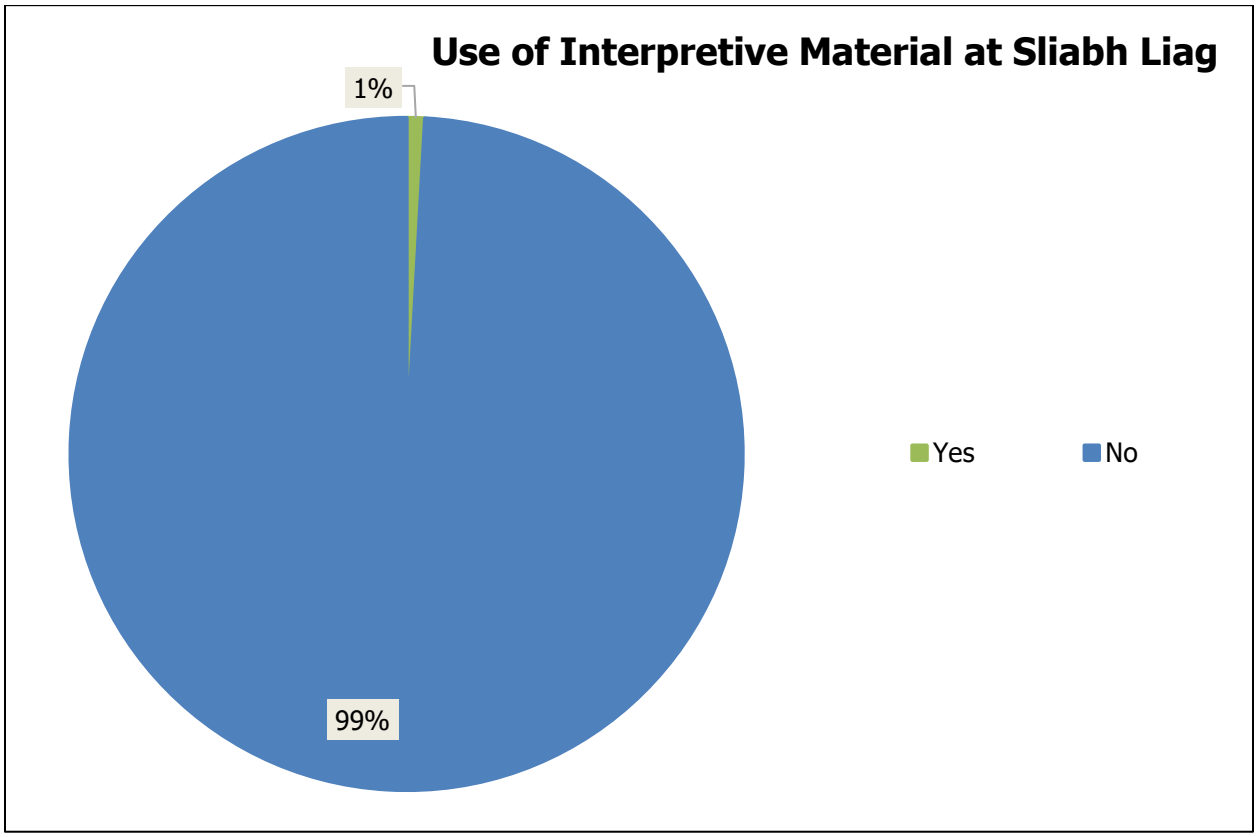


Figure 3.79 Use of Interpretive Material at Sliabh Liag

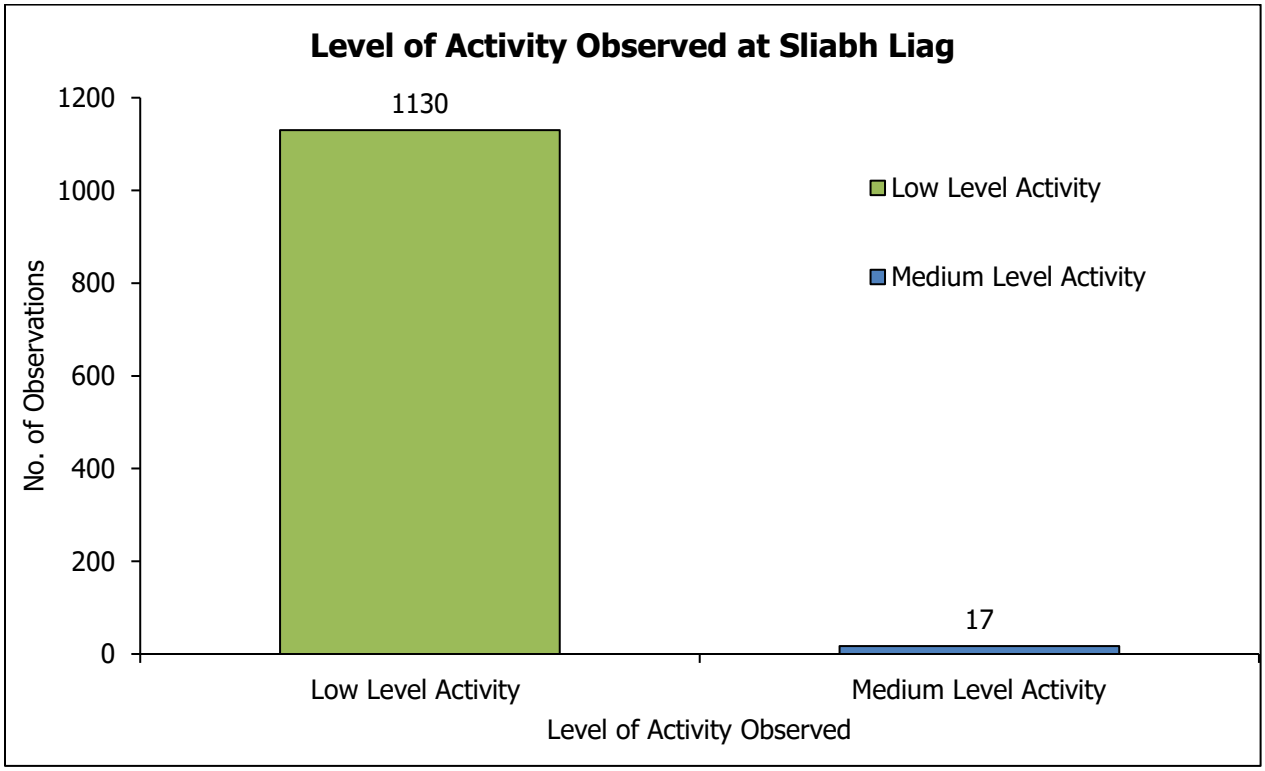


Figure 3.80 Level of Activity Observed at Sliabh Liag

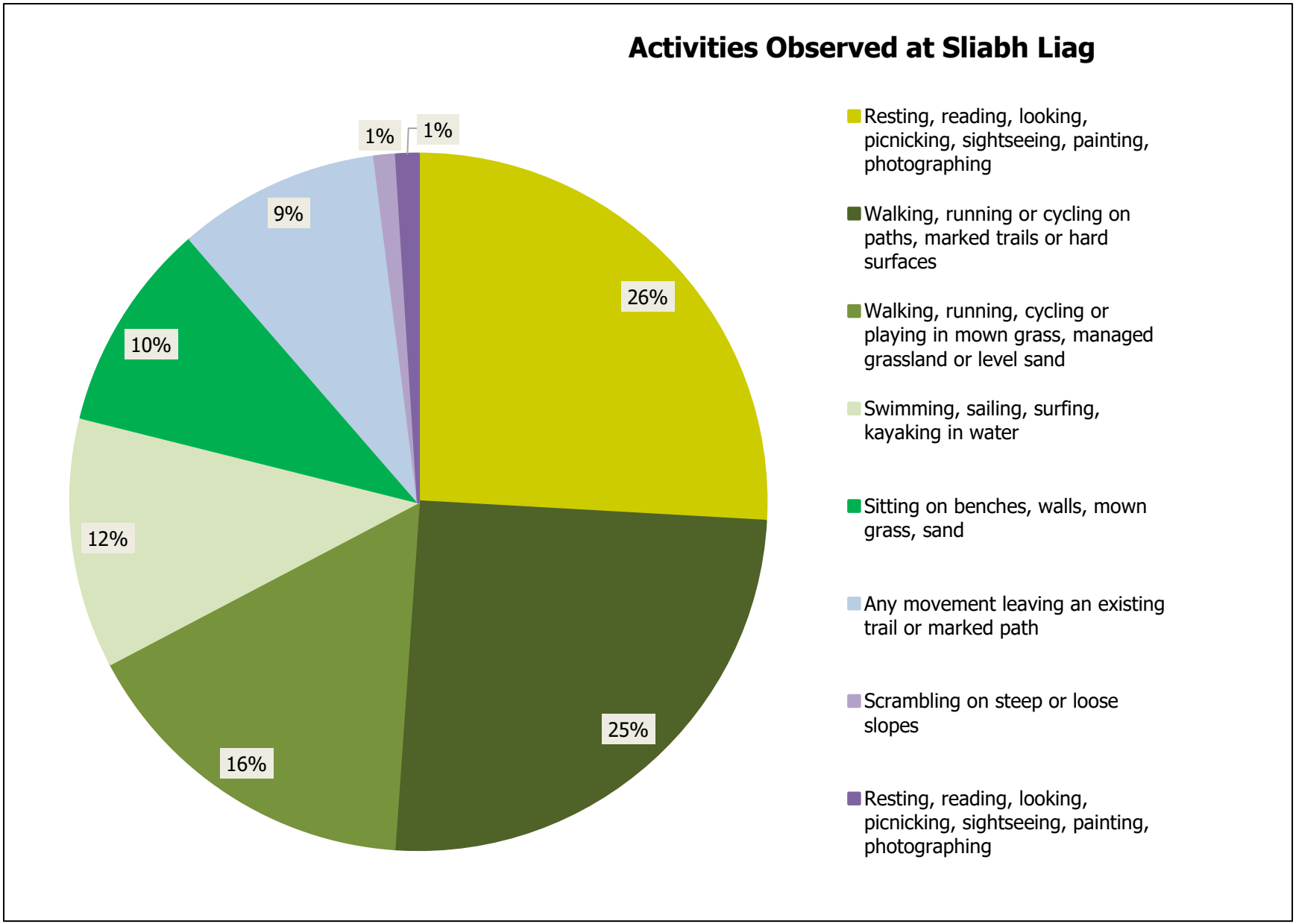


Figure 3.81 Range of Activities Observed at Sliabh Liag

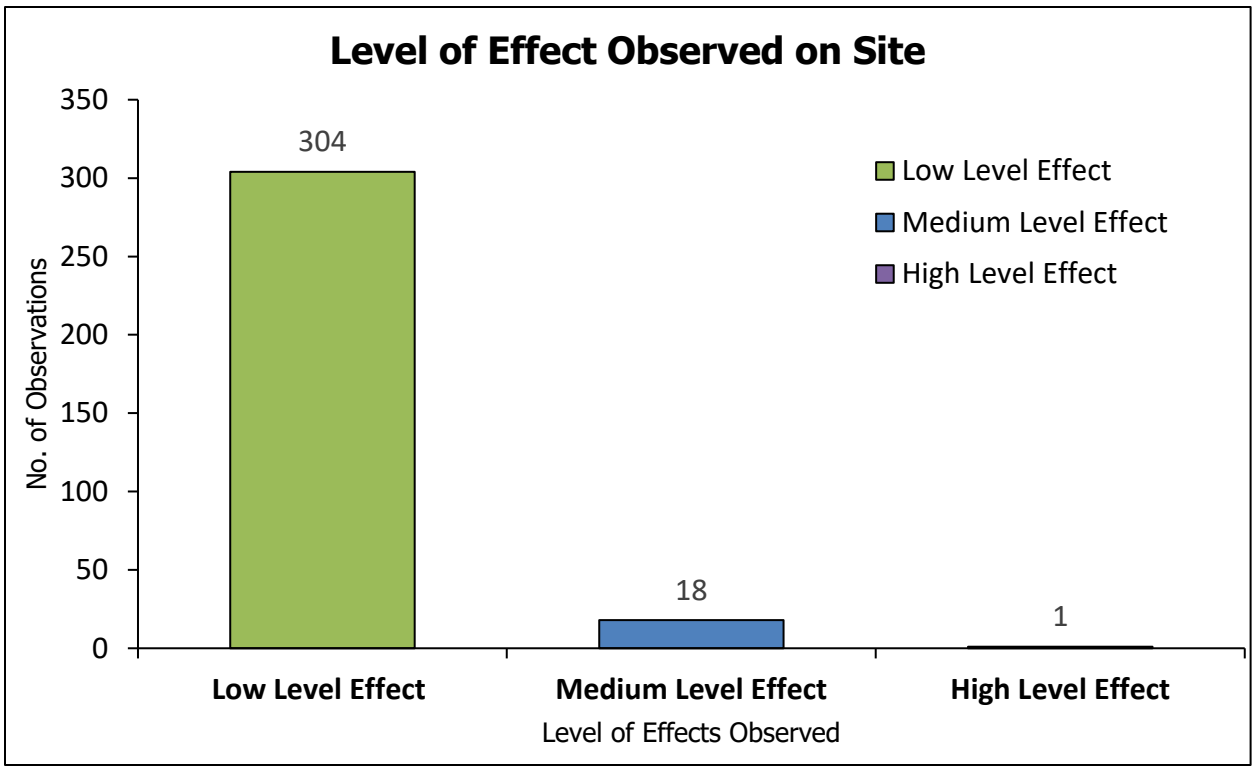


Figure 3.82 Level of Impact Observed at Sliabh Liag

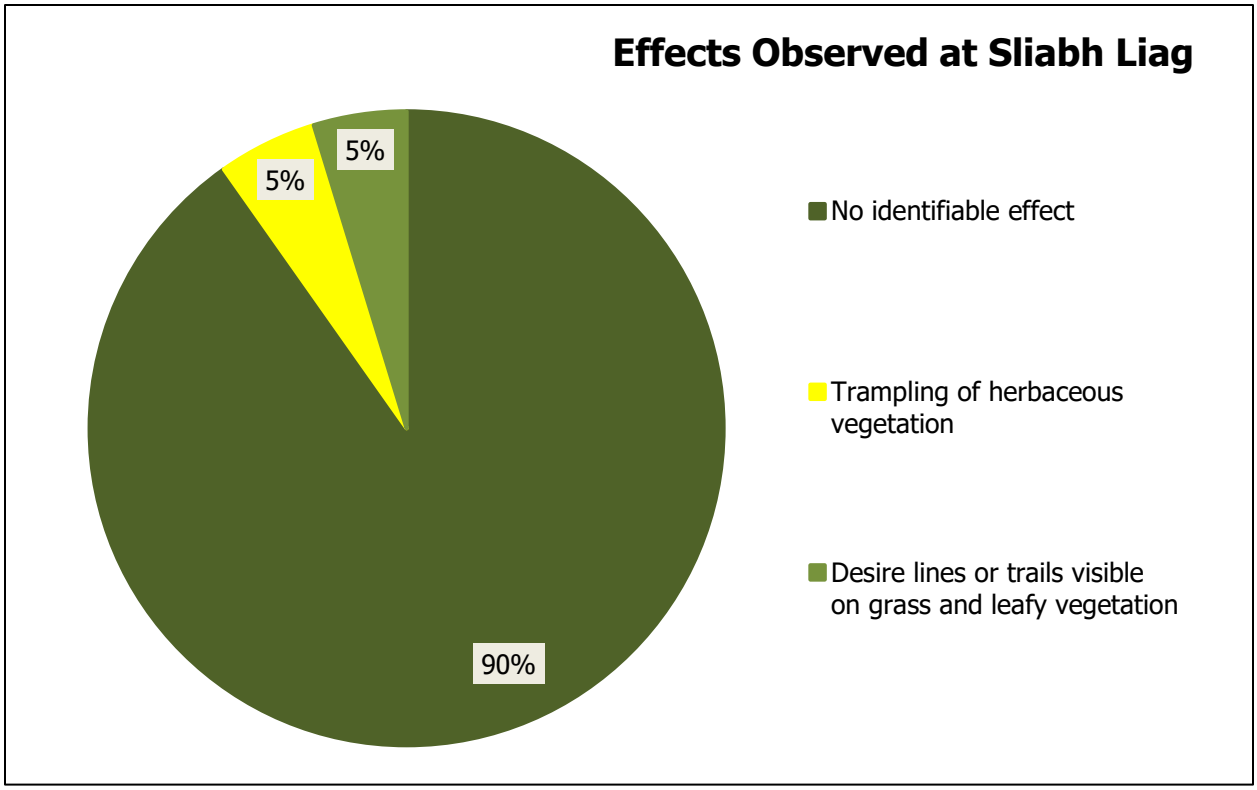


Figure 3.83 Impacts Observed at Sliabh Liag

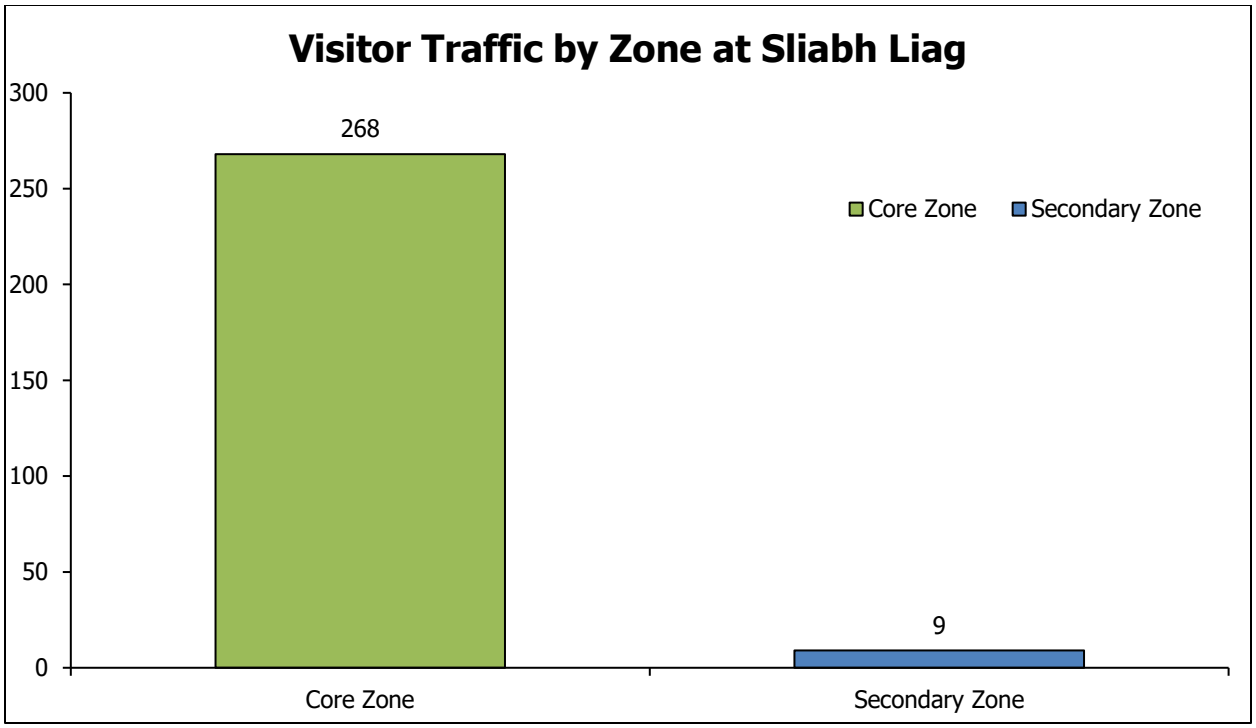


Figure 3.84 Zones trafficked by visitors at Sliabh Liag

Table 3.12 Visitor Movement Zones Descriptions

Core Zone	Existing car parks, paved areas, viewing platforms, marked pathways, trails, tracks and managed grassland and areas where pathways, trails or roads exist. The majority of visitors remain in these zones.
Secondary Zone	Areas outside of existing car park, paved areas, marked pathways, trails, tracks and managed grassland. visitors are likely to traffic areas of grassland (in some cases farmland grazed by sheep or cattle), heath or bare rock, usually to get a better view of site attractions or to access trails at the site.
Tertiary Zone	Areas where no car park, paved areas, marked pathways, trails, tracks and managed grassland are identifiable and beyond the immediate boundaries of the site.

3.12.1 Analysis of Results and Visitor Movement Patterns

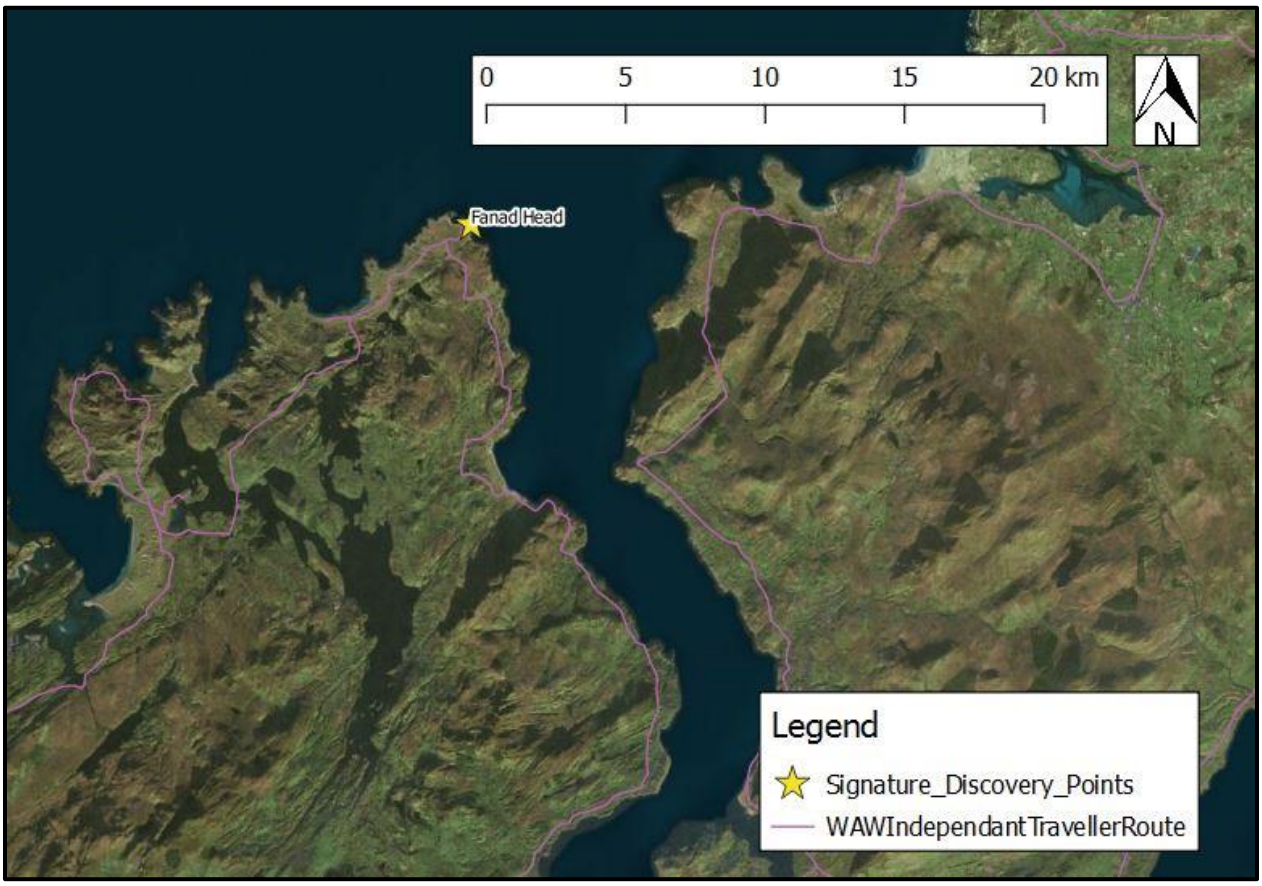
Less than 5% of the visitor movements observed were recorded outside of the Core movement zone. Visitors moved within the Core Zone 268 times with the Secondary zones being trafficked only 9 times. Most of the time was spent in the core zone due to the steep incline in the Secondary area along with difficult terrain.

95% of visitors to the site engaged in activities that resulted in Low or no effects to the site. 5% recorded medium level effects from trampling of vegetation and climbing on steep slopes. There were 2 records of high-level effects resulting from 2 visitors jumping a fence and trampling vegetation.

Image 3.13 Visitor Movement Zones at Sliabh Liag

Fanad Head

EVIRONMENTAL SURVEYING AND MONITORING RESULTS



3.13 Fanad Head

Site Name: Fanad Head	**Date Surveyed:** 14th & 15th July
County: Donegal	**Landscape Type:** Rocky shore/peat/grassland in peninsular coastal context
Total no. of People: 534	**Average Duration of visitors on site:** 1:47:40
Site Description: Fanad Head is positioned in the Fanad Peninsula near Lough Swilly on the north coast of Co. Donegal. Fanad Head Lighthouse is one of 70 lighthouses in Ireland and is operated by the Commissioner of Irish Lights. The lighthouse is now open to the public and includes guided tours of the grounds and lighthouse. Fanad Head is located within the Ballyhoorisky Point to Fanad Head SAC and the Horn Head to Fanad Head SPA. The site is a designated as an SAC for a number of habitats and species listed on Annex I and II of the E.U. Habitats Directive. The site is also designated as an SPA for the protection of endangered species of birds listed in the European Union Directive on the Conservation of Wild Birds. **Upgrade to Site:** During the 2015 survey the lighthouse was closed to the public. It is now open as a visitor attraction but many visitors still do not enter the lighthouse. There has also been upgrades to the site on terms of a new car park and a Visitor Centre.	

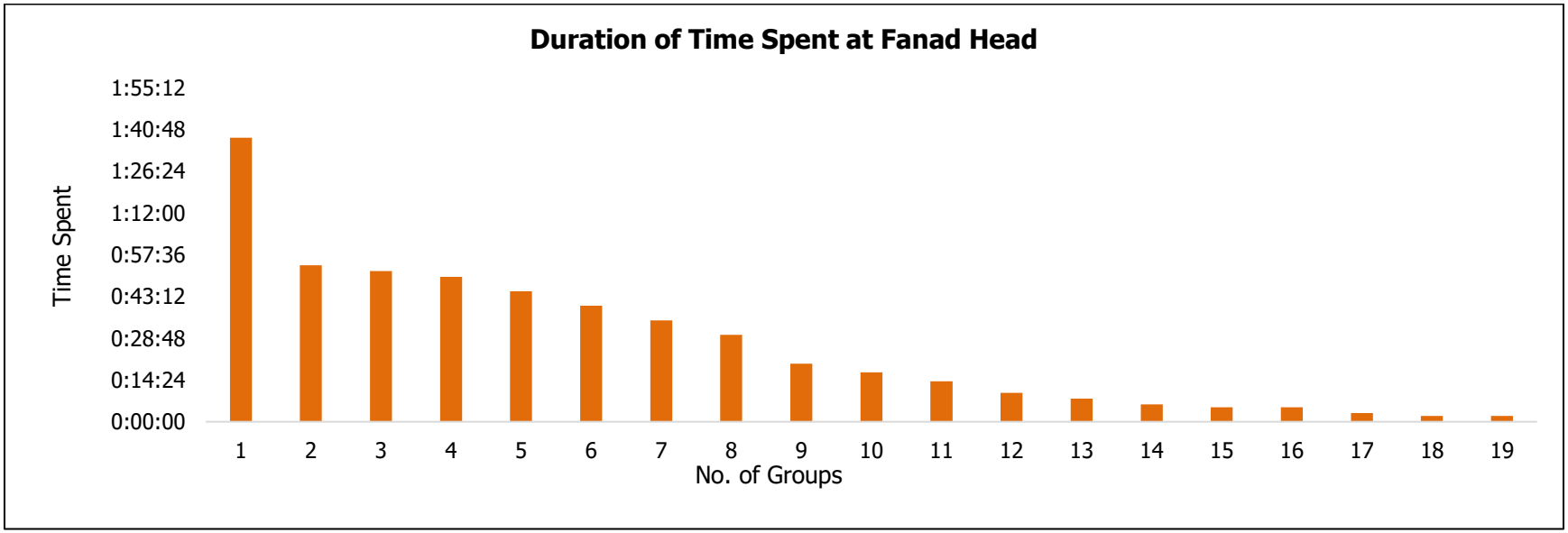


Figure 3.85 Duration Spent at Fanad Head

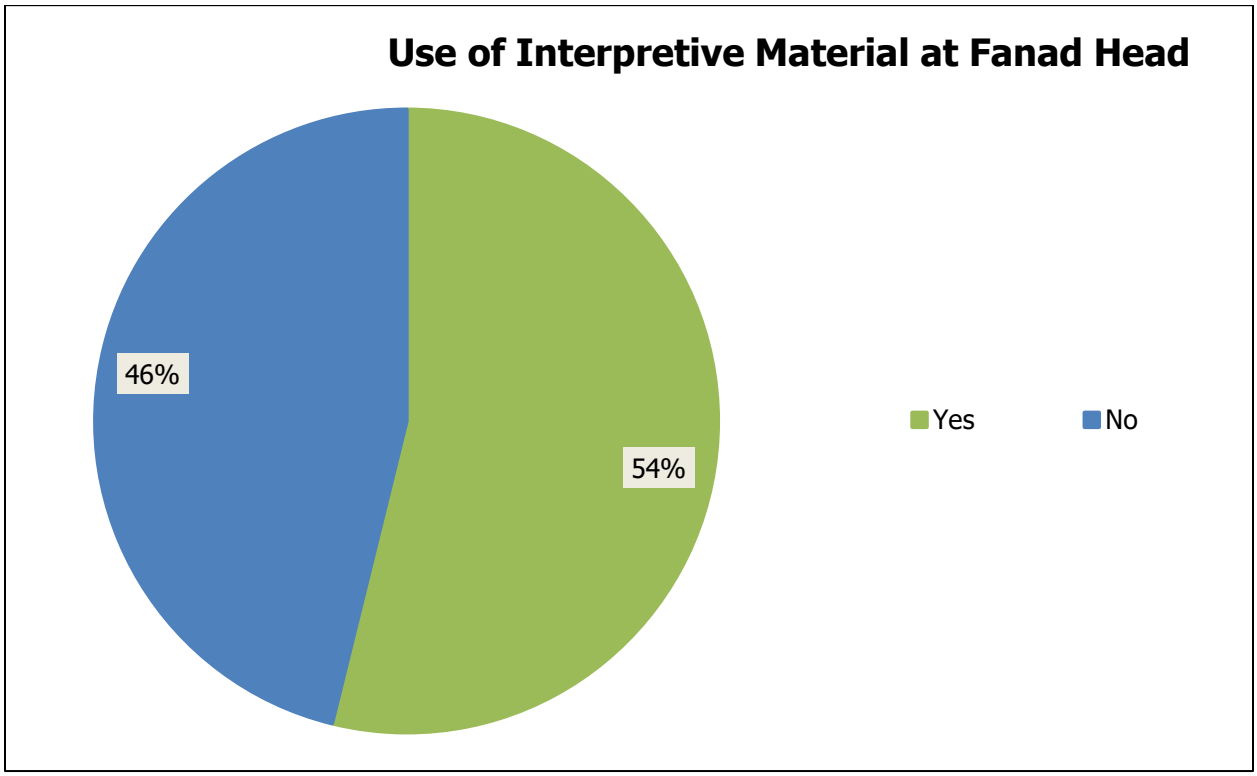


Figure 3.86 Use of Interpretive Material at Fanad Head

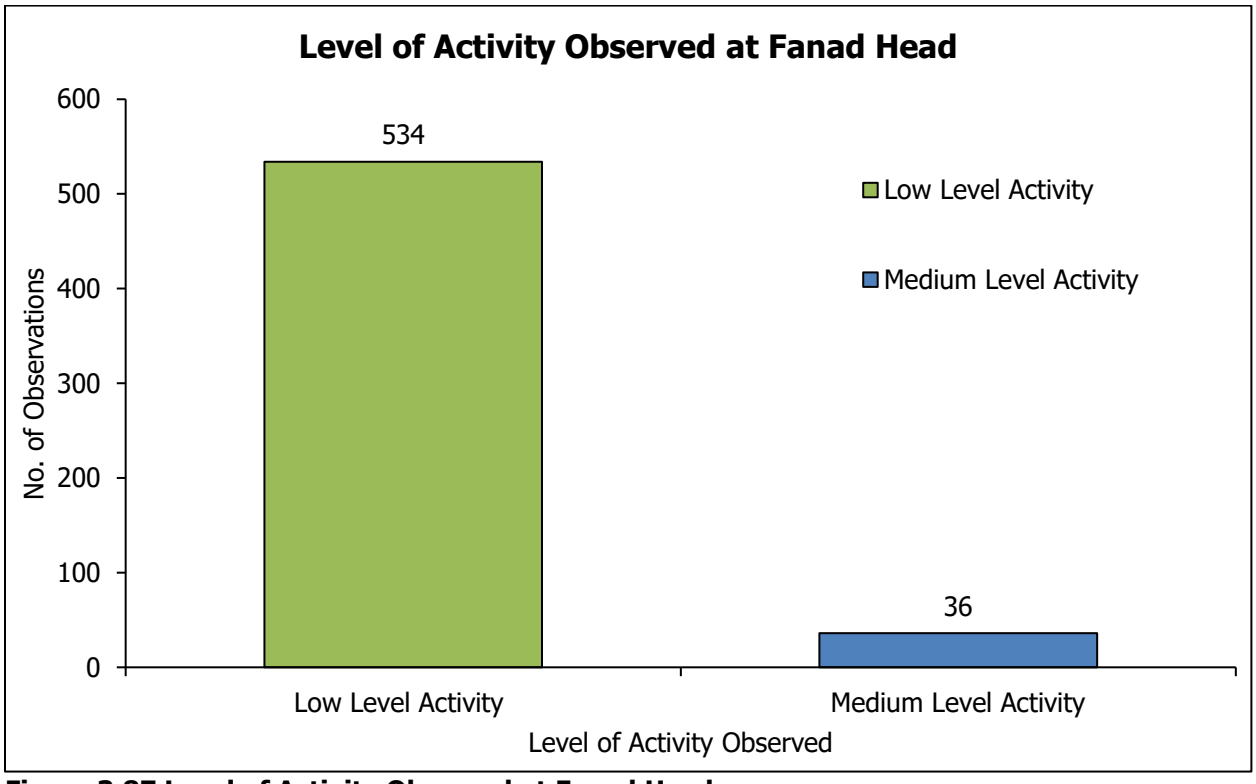


Figure 3.87 Level of Activity Observed at Fanad Head

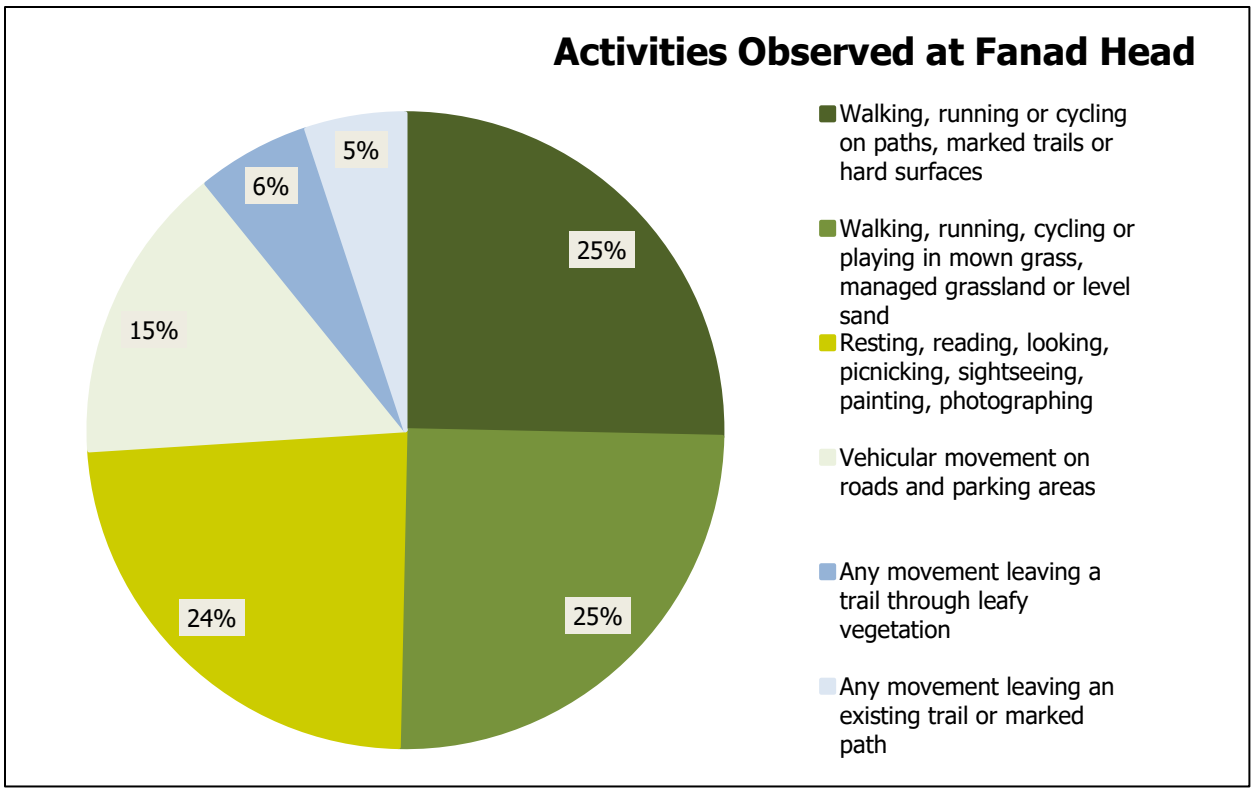


Figure 3.88 Range of Activity Observed at Fanad Head

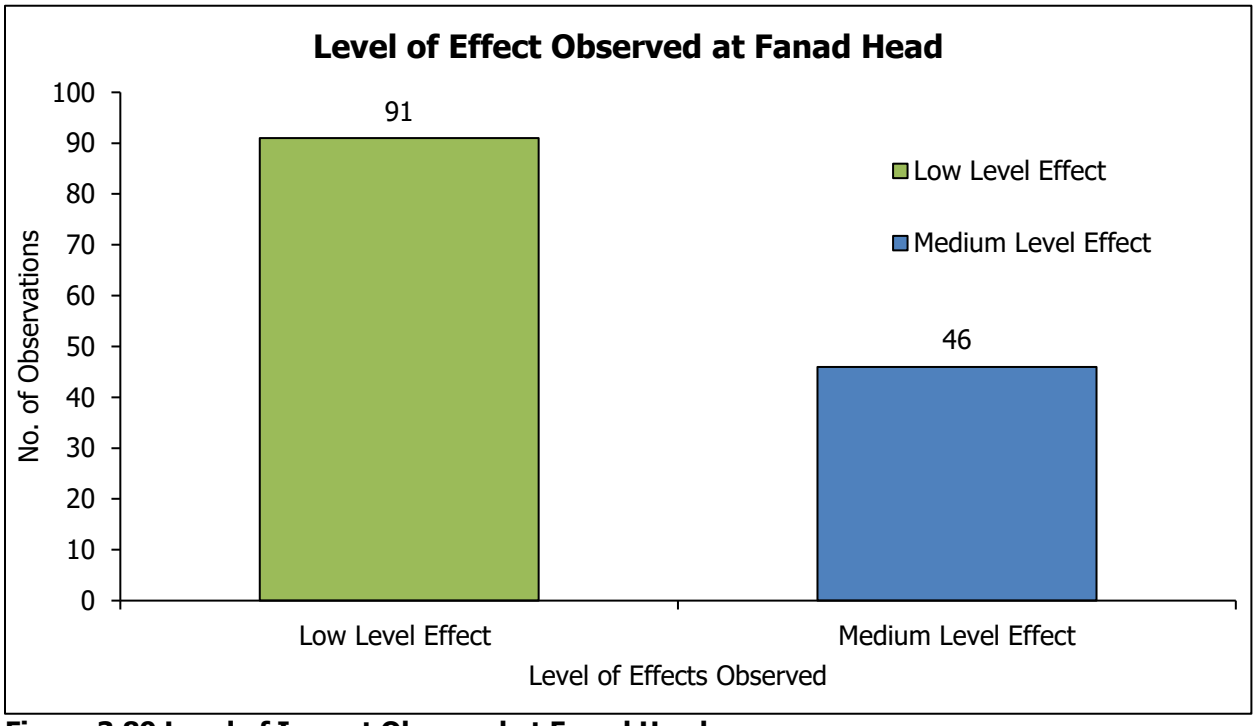


Figure 3.89 Level of Impact Observed at Fanad Head

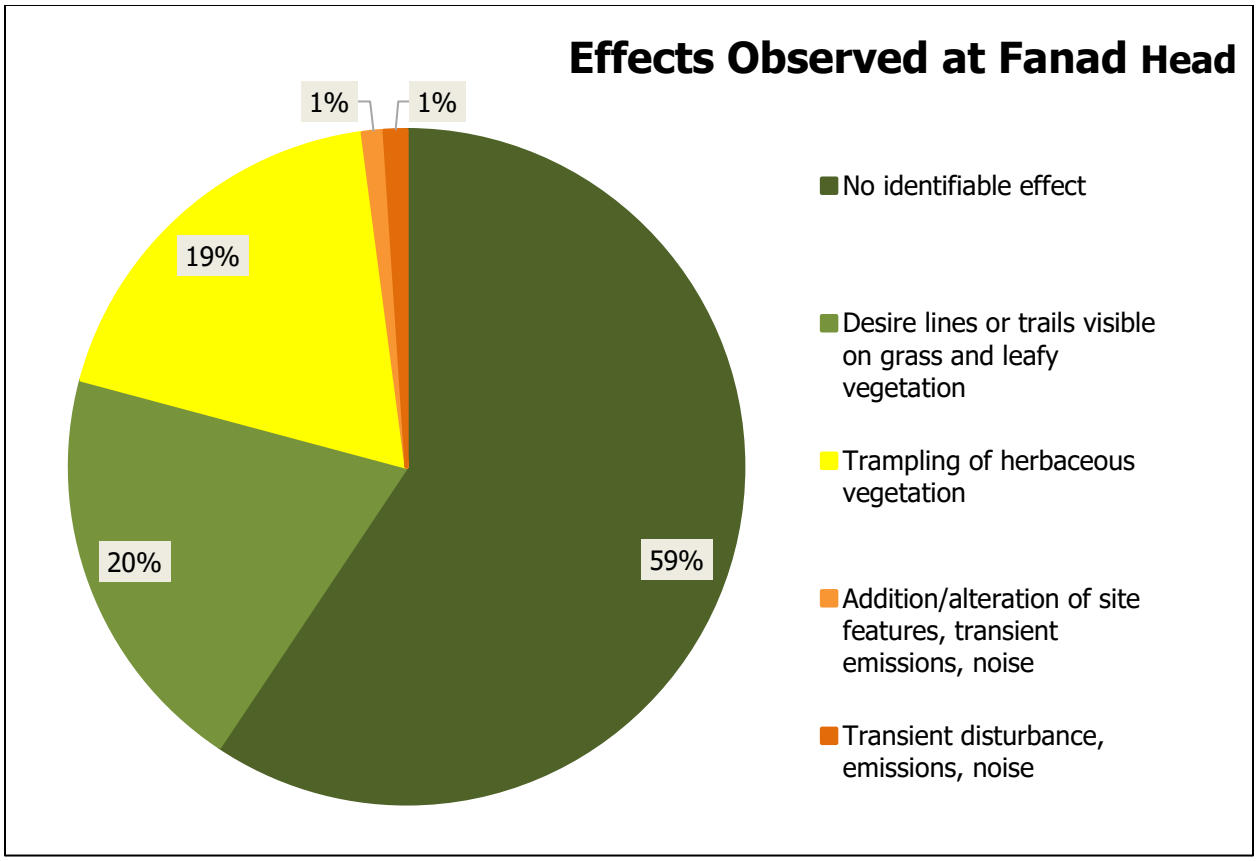


Figure 3.90 Impacts Observed at Fanad Head

Table 3.13 Visitor Movement Zones Descriptions

Core Zone	Existing car parks, paved areas, viewing platforms, marked pathways, trails, tracks and managed grassland and areas where pathways, trails or roads exist. The majority of visitors remain in these zones.
Secondary Zone	Areas outside of existing car park, paved areas, marked pathways, trails, tracks and managed grassland. visitors are likely to traffic areas of grassland (in some cases farmland grazed by sheep or cattle), heath or bare rock, usually to get a better view of site attractions or to access trails at the site.
Tertiary Zone	Areas where no car park, paved areas, marked pathways, trails, tracks and managed grassland are identifiable and beyond the immediate boundaries of the site.

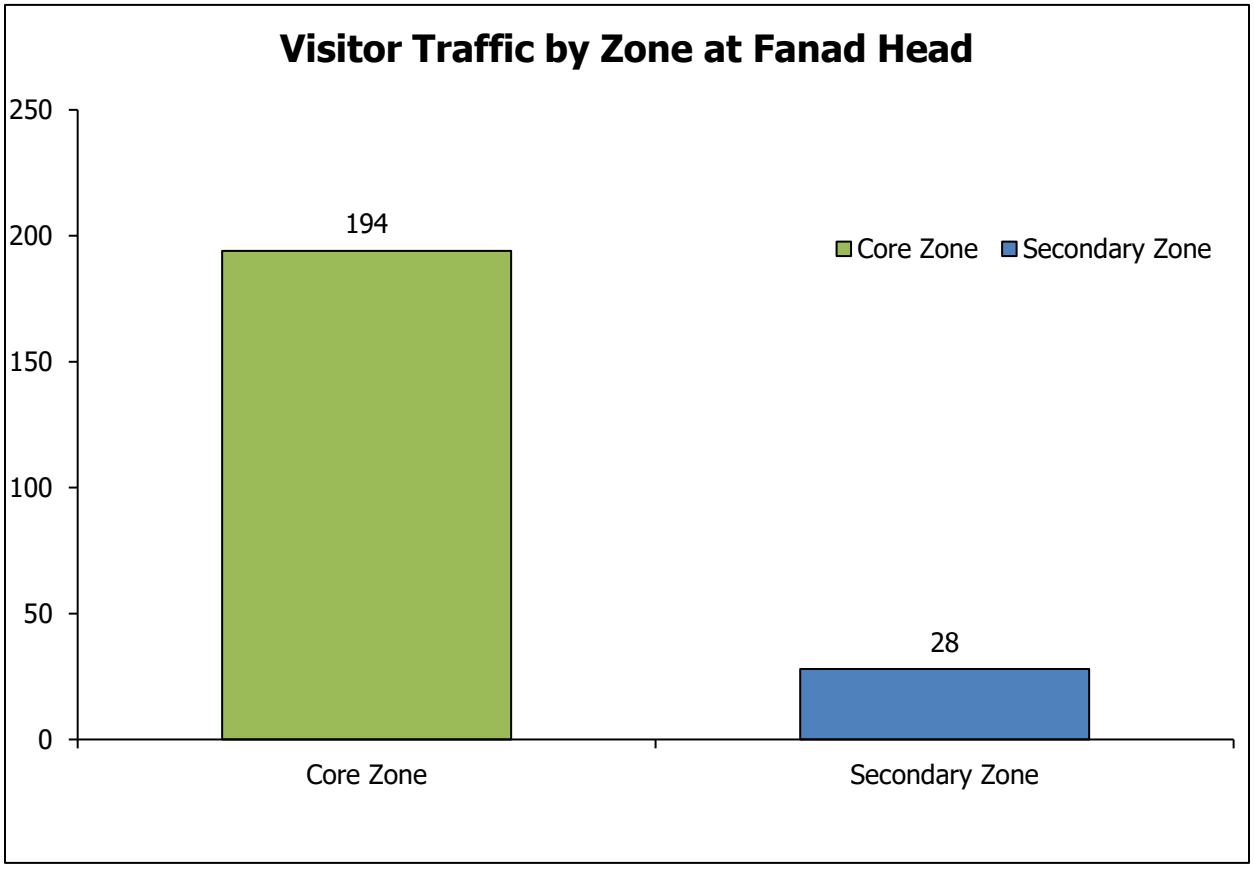


Figure 3.91 Visitor Traffic by Zone at Fanad Head

3.13.1 Analysis of Results and Visitor Movement Patterns

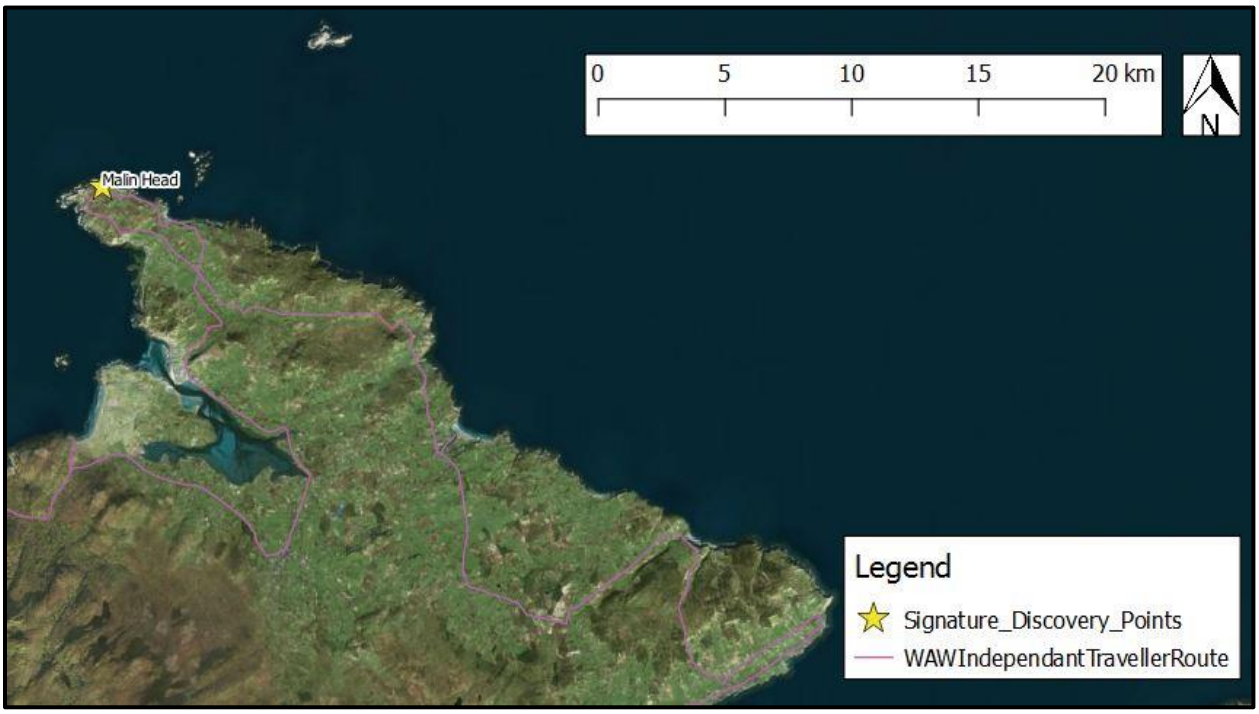
Visitors to Fanad Head were recorded in the Core zone 194 times; 12% of visitor movements observed were in the Secondary zone (trafficked 28 times) when visitors left the core zone to walk along the headland.

59% of visitors had no identifiable effect to the site and a further 20% had low levels of effects observed. Evidence of the trampling of herbaceous vegetation was apparent across fences where visitors trafficked secondary zones (19% of all effects observed; 12 incidences). The remaining 2% were due to noise pollution and physical interactions with fencing. This is readily reversible and will not have a lasting impact.

Image 3.14 Visitor Movement Zones at Fanad Head

Malin Head

EVIRONMENTAL SURVEYING AND MONITORING RESULTS



3.14 Malin Head

Site Name: Malin Head	**Date Surveyed:** 12th & 13th July 2018
County: Donegal	**Landscape Type:** Rocky shore/peat/grassland in peninsular coastal context
Total no. of People: 605	**Average Duration of visitors on site:** 0:32:29
Site Description: Malin Head is located within the North Inishowen Coast SAC and is a proposed Natural Heritage area (pNHA). The site is an SAC for a number of habitats and species listed on Annex I and II of the E.U. Habitats Directive. The area is also of significant geological interest. The site attracts visitors for being the most northerly point in the mainland of Ireland. The site comprises of two small car parks and a cliff top walk. Observation was undertaken from the upper carpark near Lyolds Signal Tower. From here the lower car park can also be viewed. Three World War II look out posts and a viewing platform (constructed in late 2014) are adjacent to the upper car park. Malin Head was part of a pilot survey in 2014. **Upgrade to Site:** During the 2015 survey planning permission was approved for a new car park and toilet facilities at the lower car park, both were apparent at the site during the 2018 survey.	

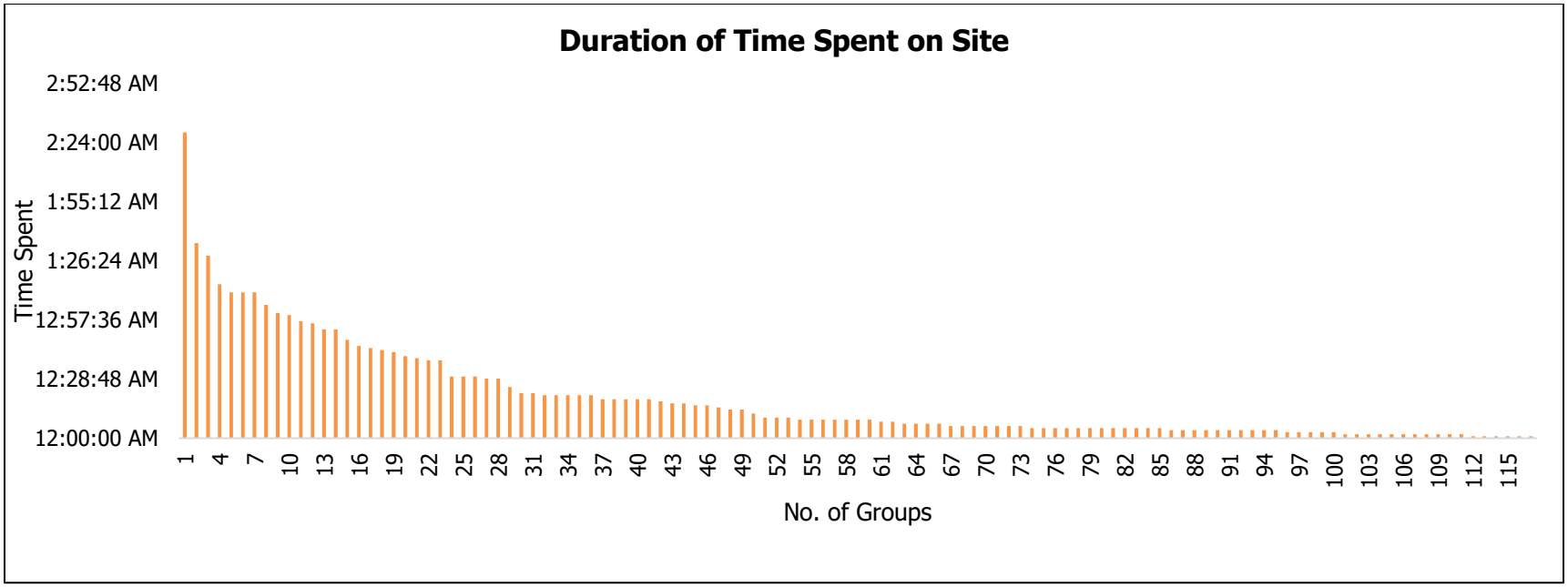


Figure 3.92 Duration Spent at Malin Head [13]

[13] The graph represents 117 groups of the 343 observed due to a low yield of departing times due to the disperse nature and scale of the site.

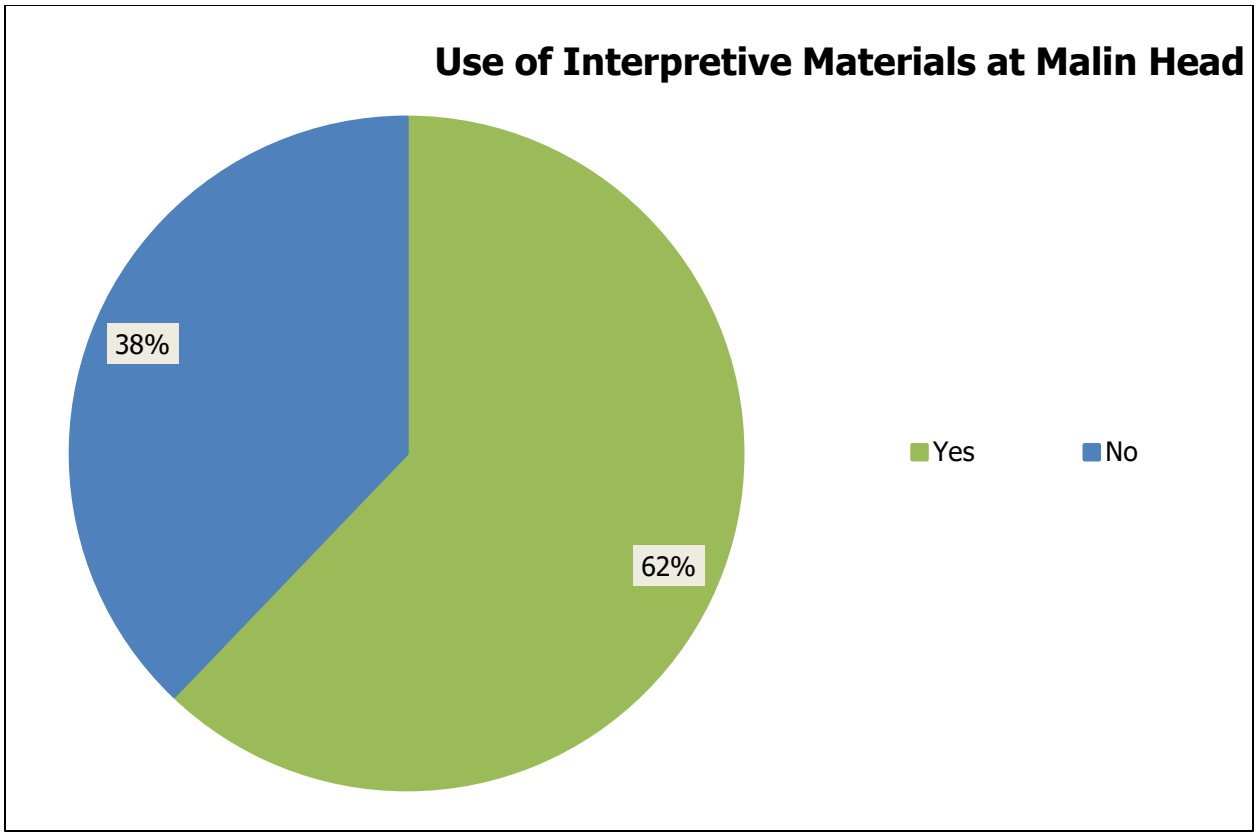


Figure 3.93 Use if Interpretive Materials at Malin Head

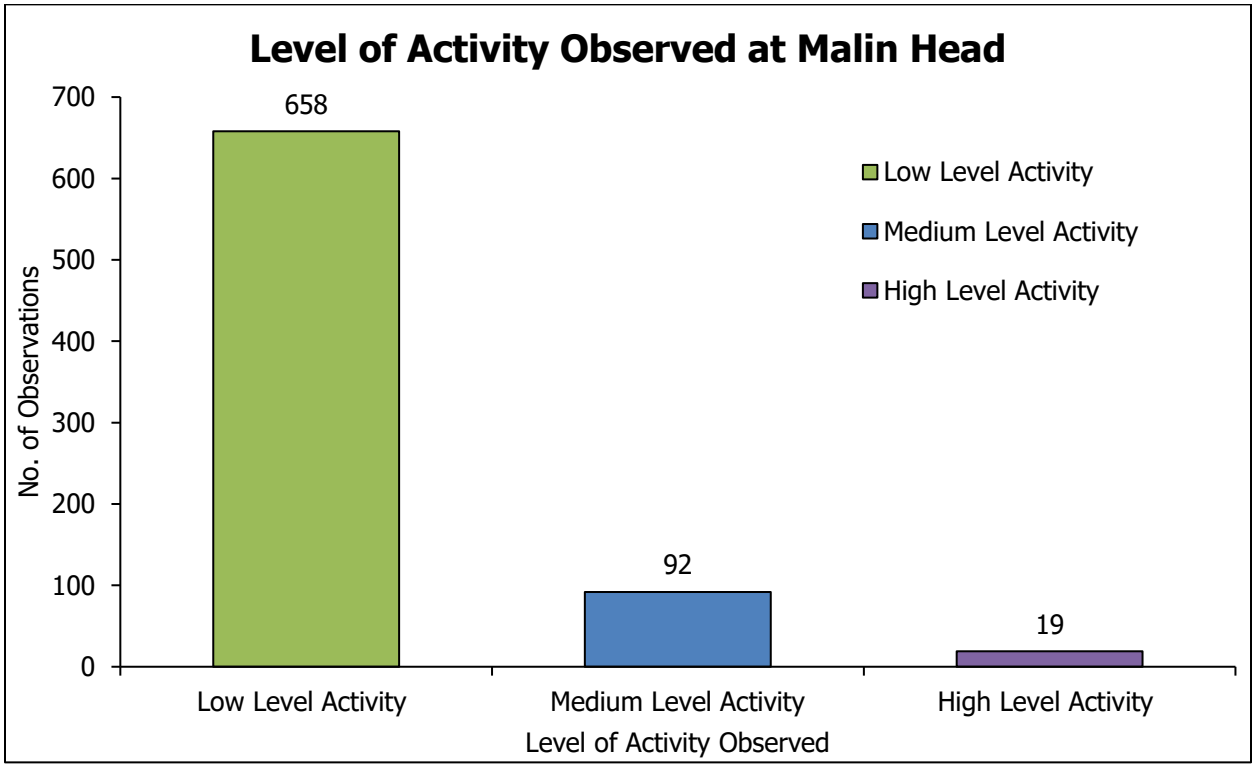


Figure 3.94 Level of Activity Observed at Malin Head

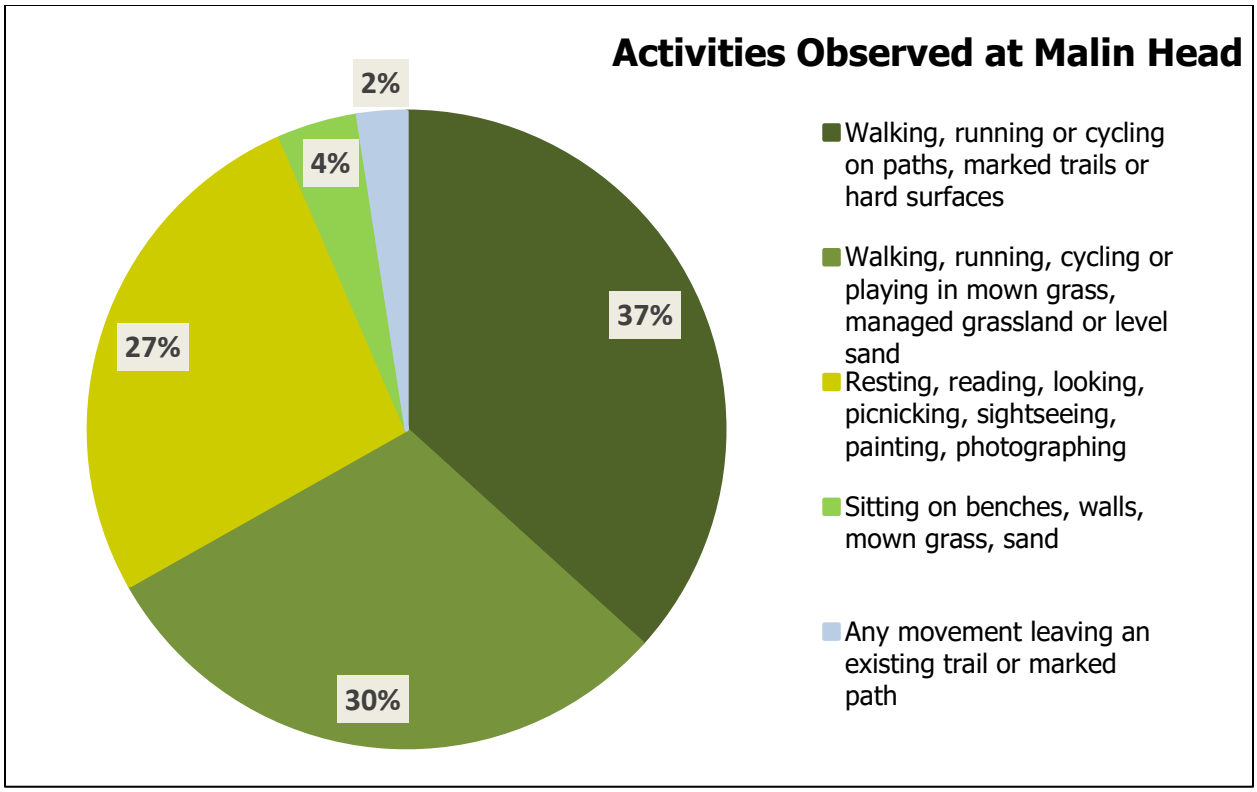


Figure 3.95 Range of Activities Observed at Malin Head

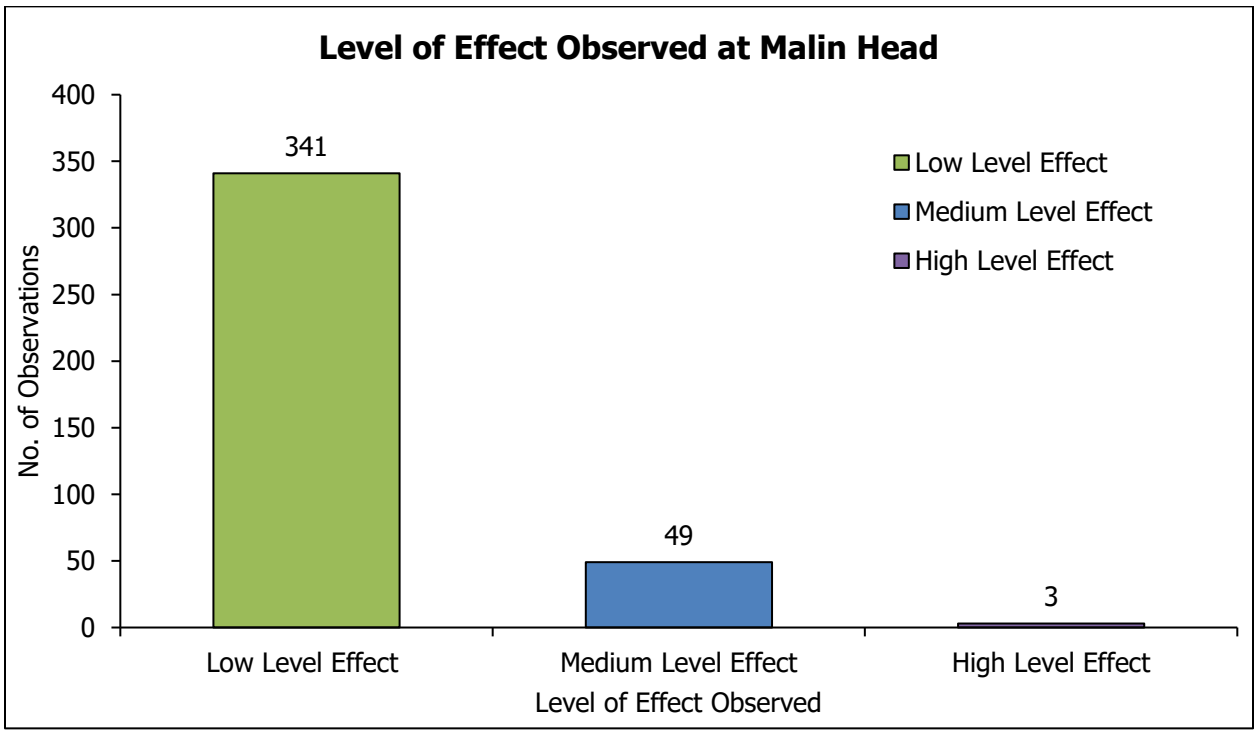


Figure 3.96 Level of Impact Observed at Malin Head

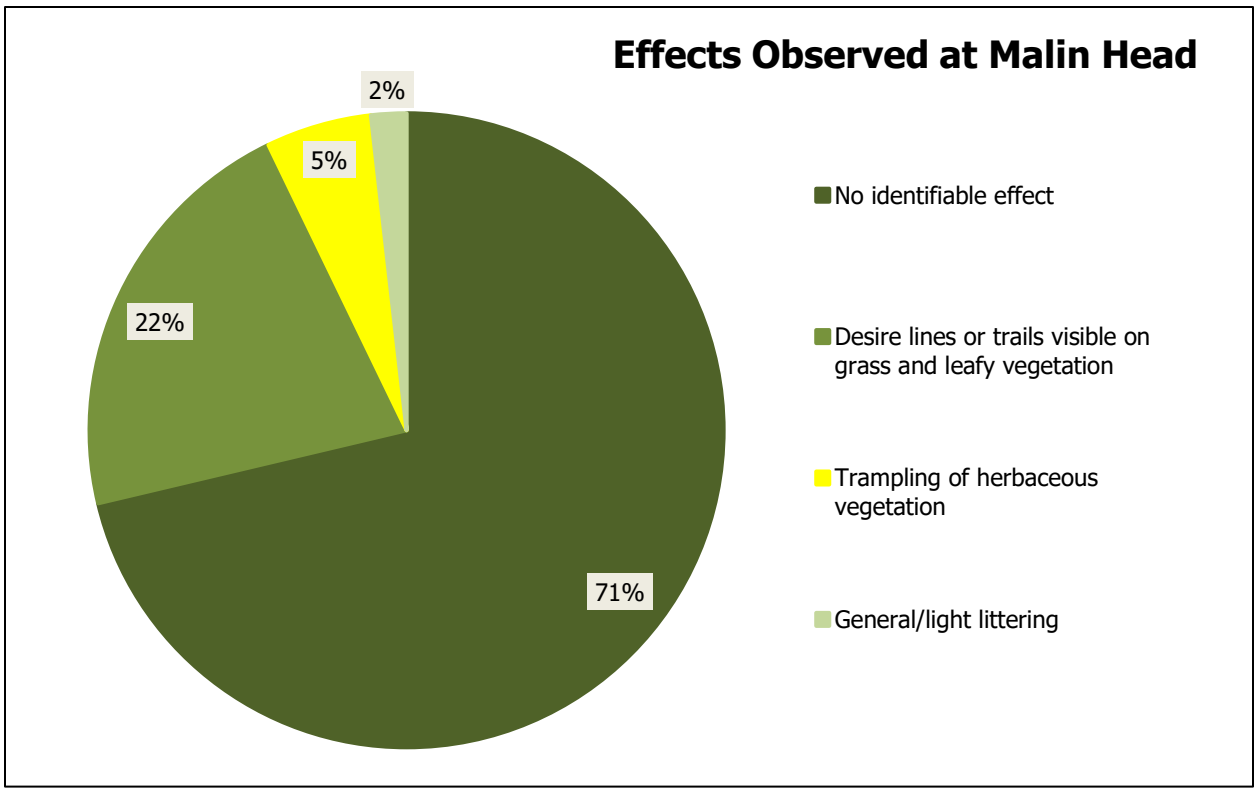


Figure 3.97 Impacts Observed at Malin Head.

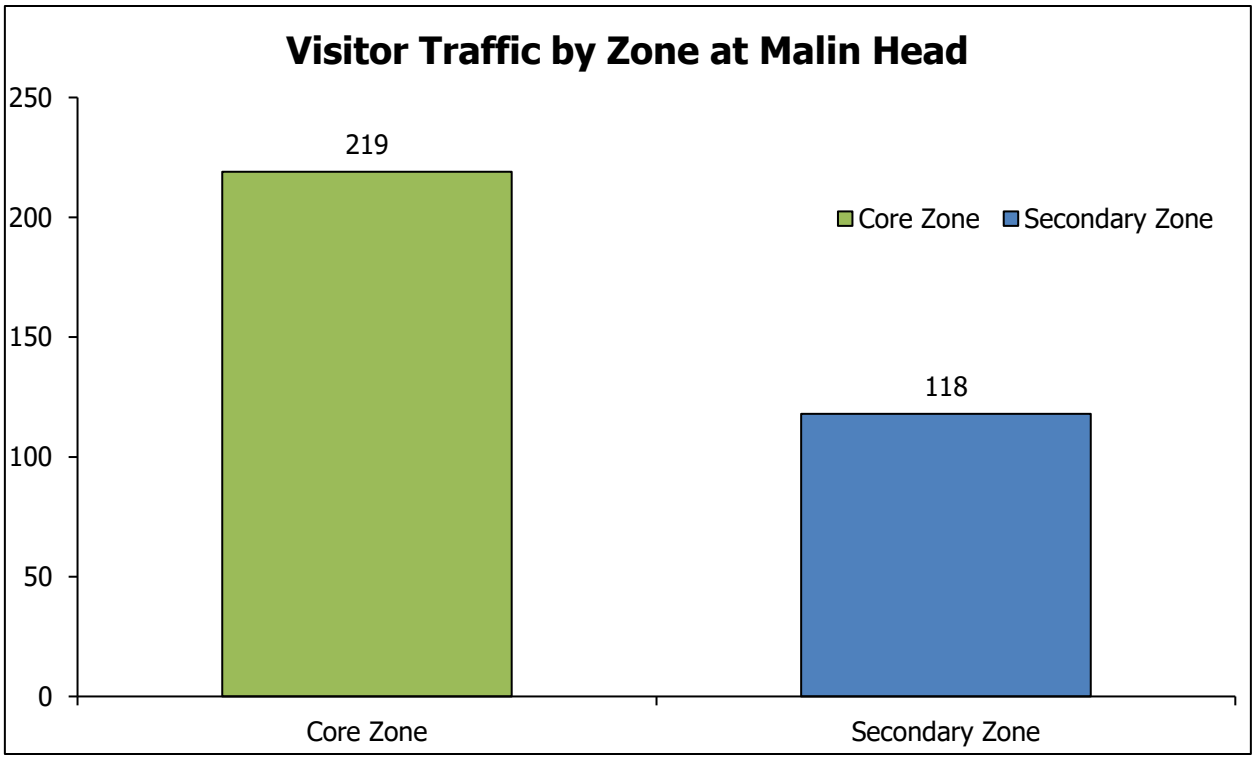


Figure 3.98 Zones trafficked by visitors at Malin Head

Table 3.14 Visitor Movement Zones Descriptions

Core Zone	Existing car parks, paved areas, viewing platforms, marked pathways, trails, tracks and managed grassland and areas where pathways, trails or roads exist. The majority of visitors remain in these zones.
Secondary Zone	Areas outside of existing car park, paved areas, marked pathways, trails, tracks and managed grassland. visitors are likely to traffic areas of grassland (in some cases farmland grazed by sheep or cattle), heath or bare rock, usually to get a better view of site attractions or to access trails at the site.
Tertiary Zone	Areas where no car park, paved areas, marked pathways, trails, tracks and managed grassland are identifiable and beyond the immediate boundaries of the site.

3.14.1 Analysis of Results and Visitor Movement Patterns

35% of visitor movements observed were outside of the core area. Visitor Movement in the Core zone at Malin Head was recorded 219 times. The Secondary zone was trafficked 118 times from visitors moving across bare rock and vegetation to observe the lookout post or signal tower.

71% of visitors had no identifiable effect to the site and conversely, 29% of visitors were recorded to have some level of effect on the site. 5% of all the impacts observed were because of damage to vegetation due to trampling which was observed 12 times. Visitors that left marked trails to explore the different focal points, marked trails became evident. Two visitors were observed to climb across a mound resulting in visible desire lines.

Further assessment into the implication of the effects observed to the vegetation need to be explored in the Ecological Monitoring Report.

Image 3.15 Visitor Movement Zones at Malin Head

Section 4 Collective Analysis of All Sites

This section reviews all 14 monitoring sites collectively in terms of time spent on site, modes of transport, level of activity and impacts.

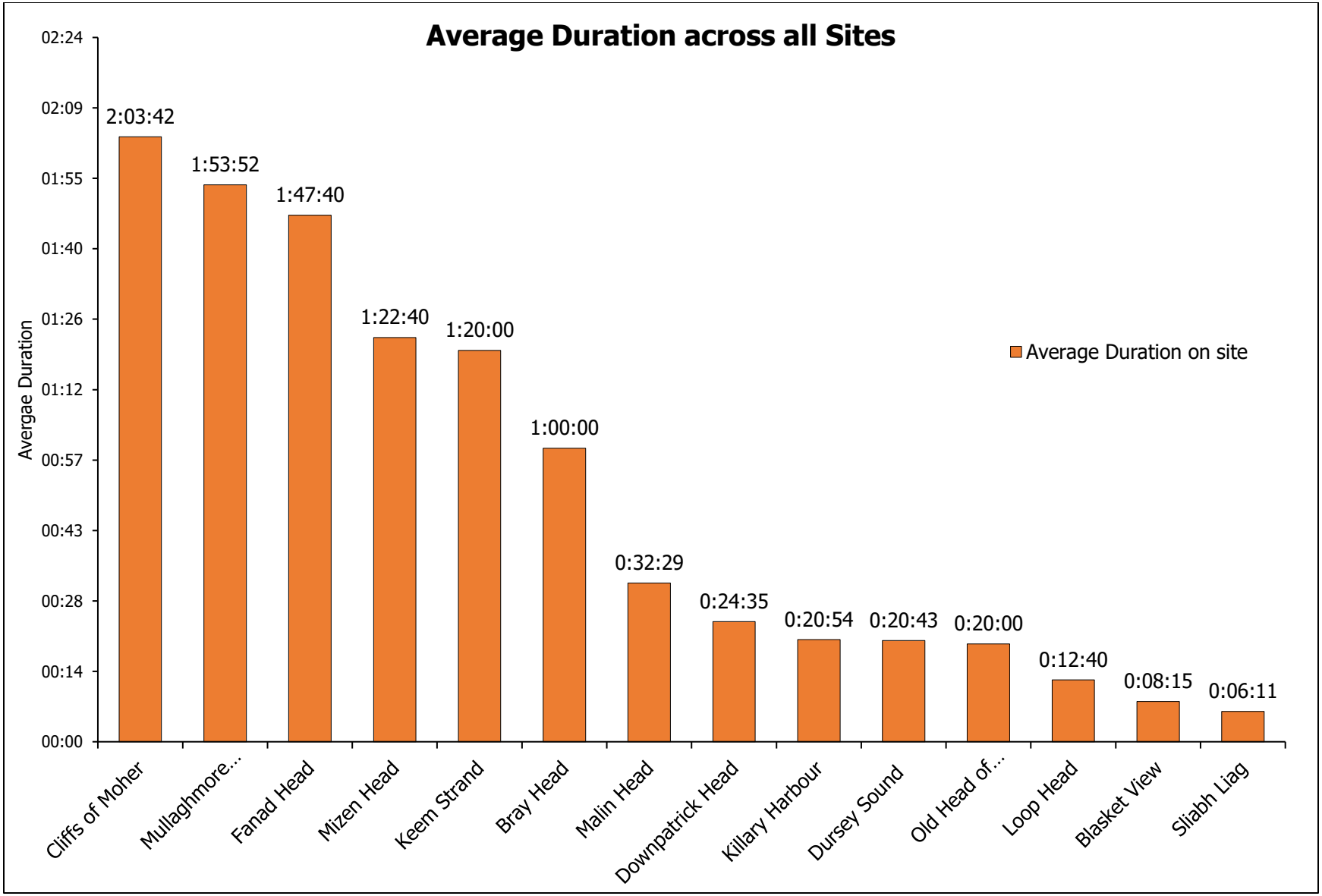


Figure 4.1 No. of People and Analysis of Average Duration Spent on Each site

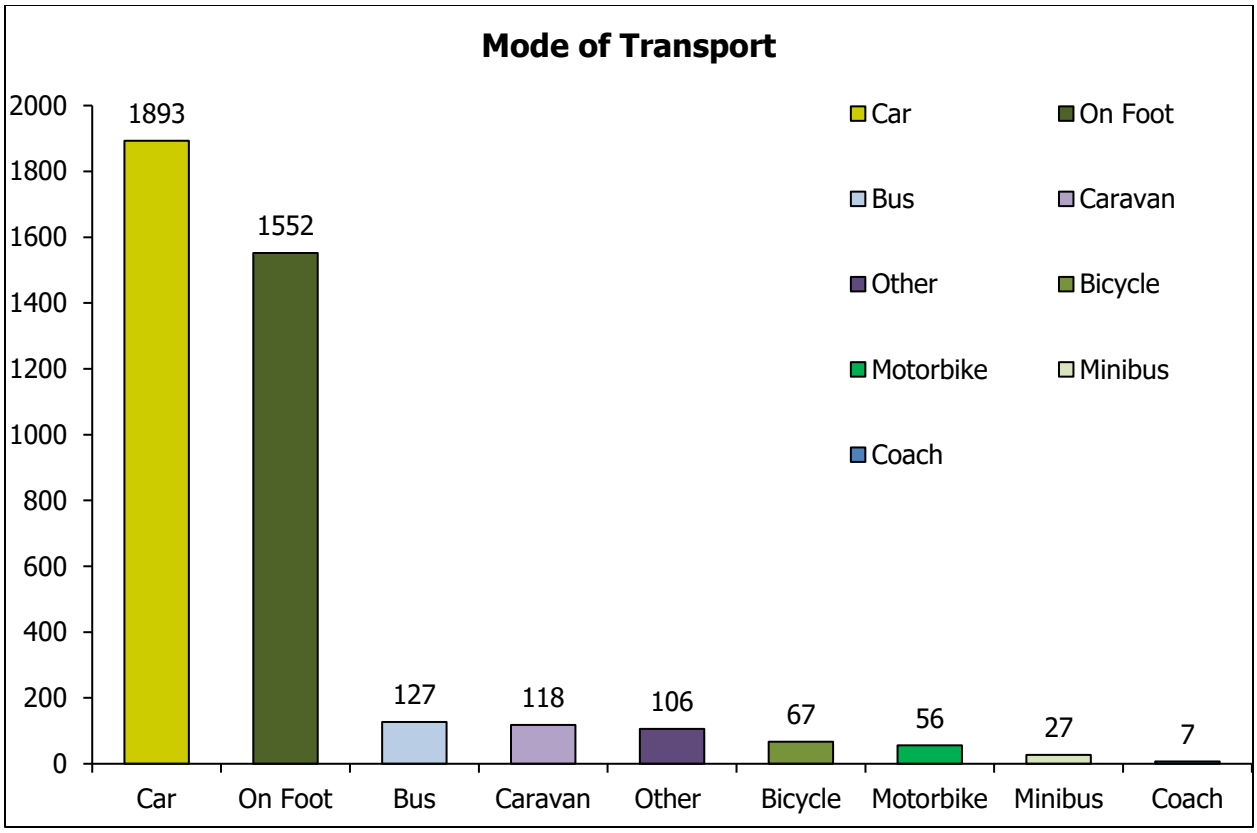


Figure 4.2 Mode of Transport used to reach Discovery Sites

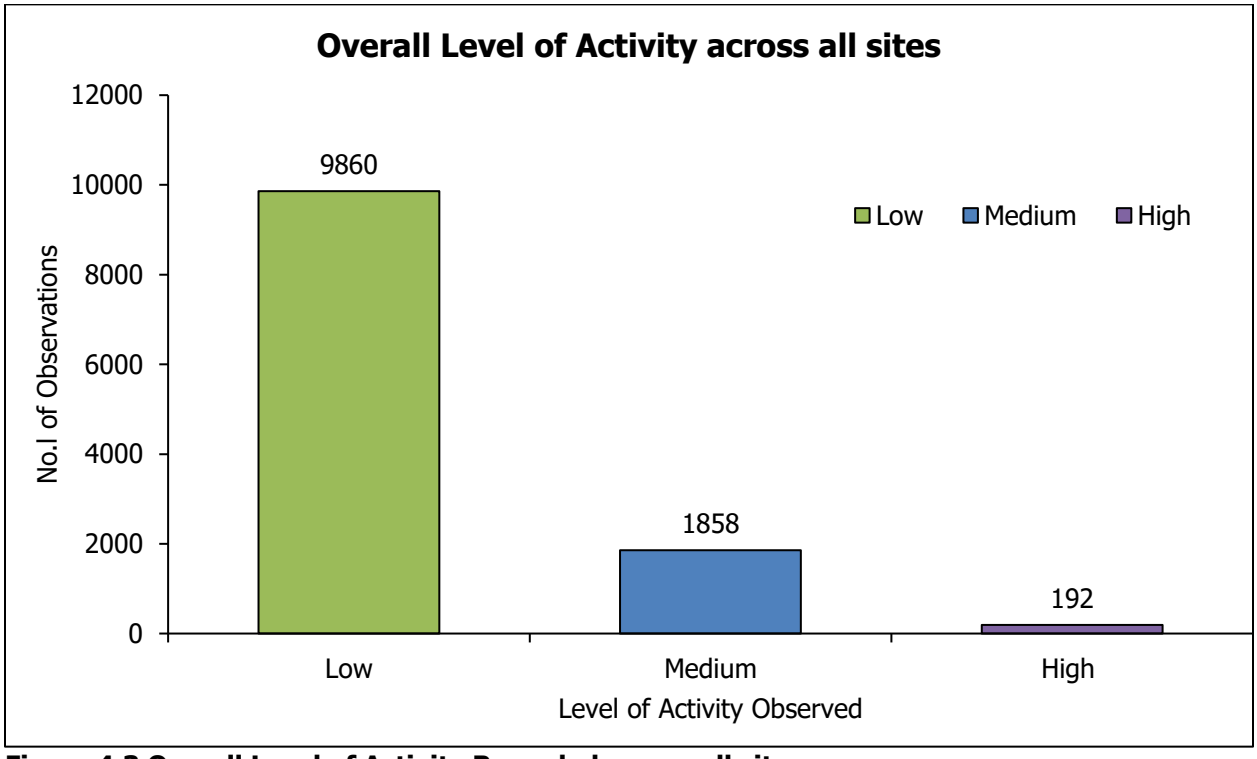


Figure 4.3 Overall Level of Activity Recorded across all sites

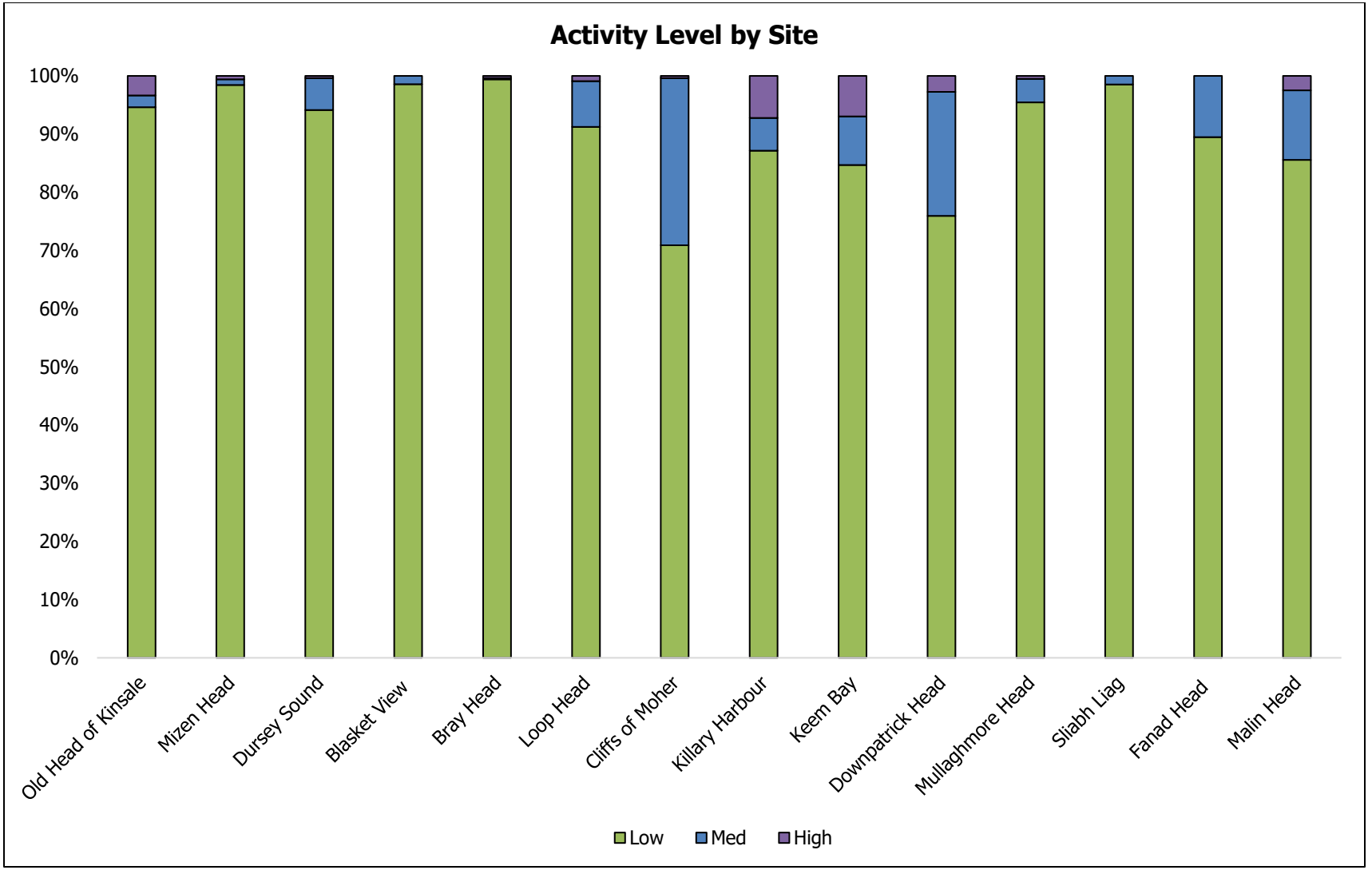


Figure 4.4 Level of Activity Observed across all sites [14]

[14] Note that these are percentages of observed activities to give a relative scale for comparison. Details on the actual numbers at each site can be found in the relevant chapter

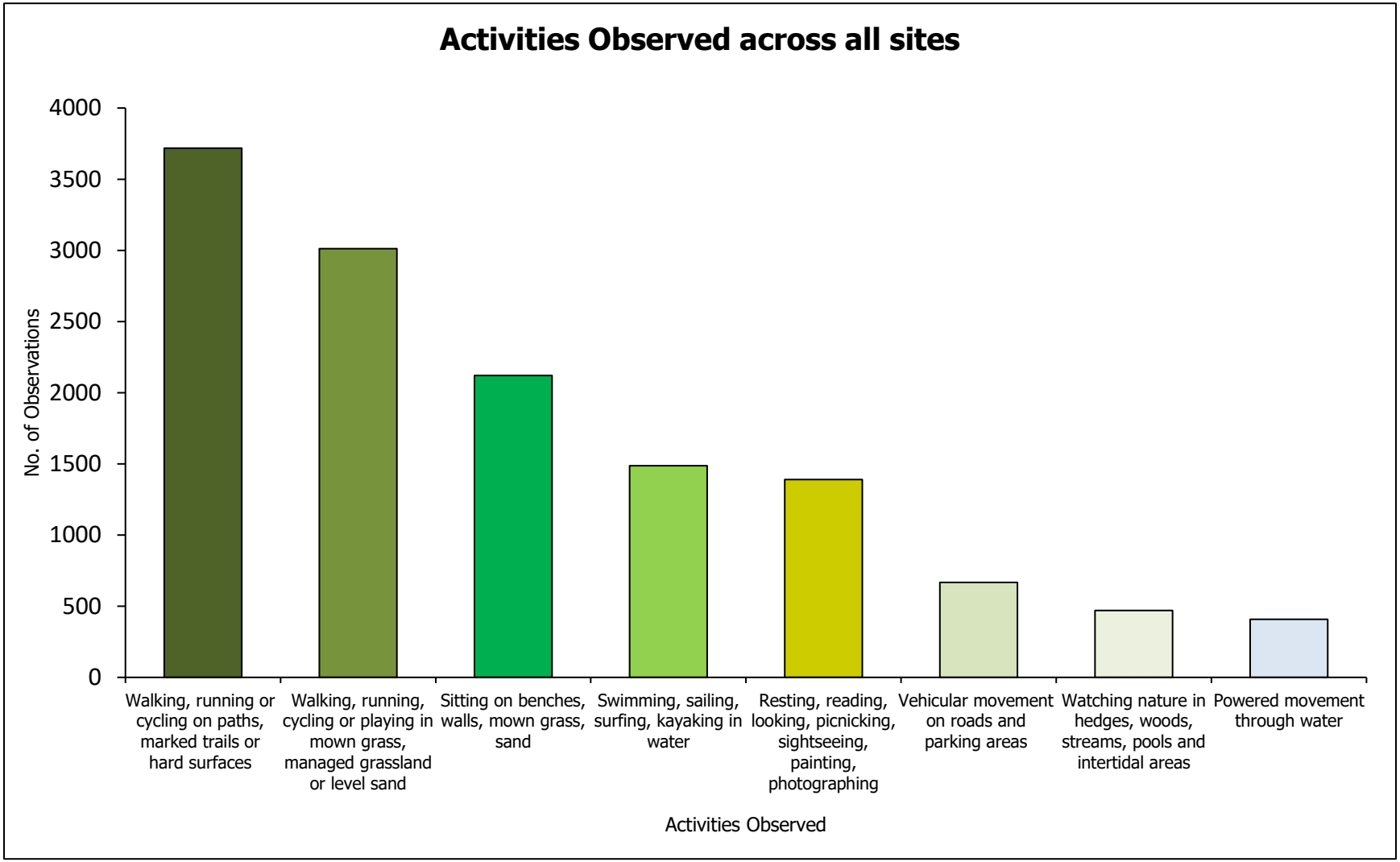


Figure 4.5 Range of Activities Recorded across all site[15]

[15] Fishing, walking through wet/muddy soil, scrambling on steep or loose slopes, off road vehicular movement, Disturbance of wildlife, Deliberate building or moving or knocking site materials - parts of monuments, walls, stones, sand etc., Picking herbaceous vegetation; all these activities accounted for less than 1% of the overall total.

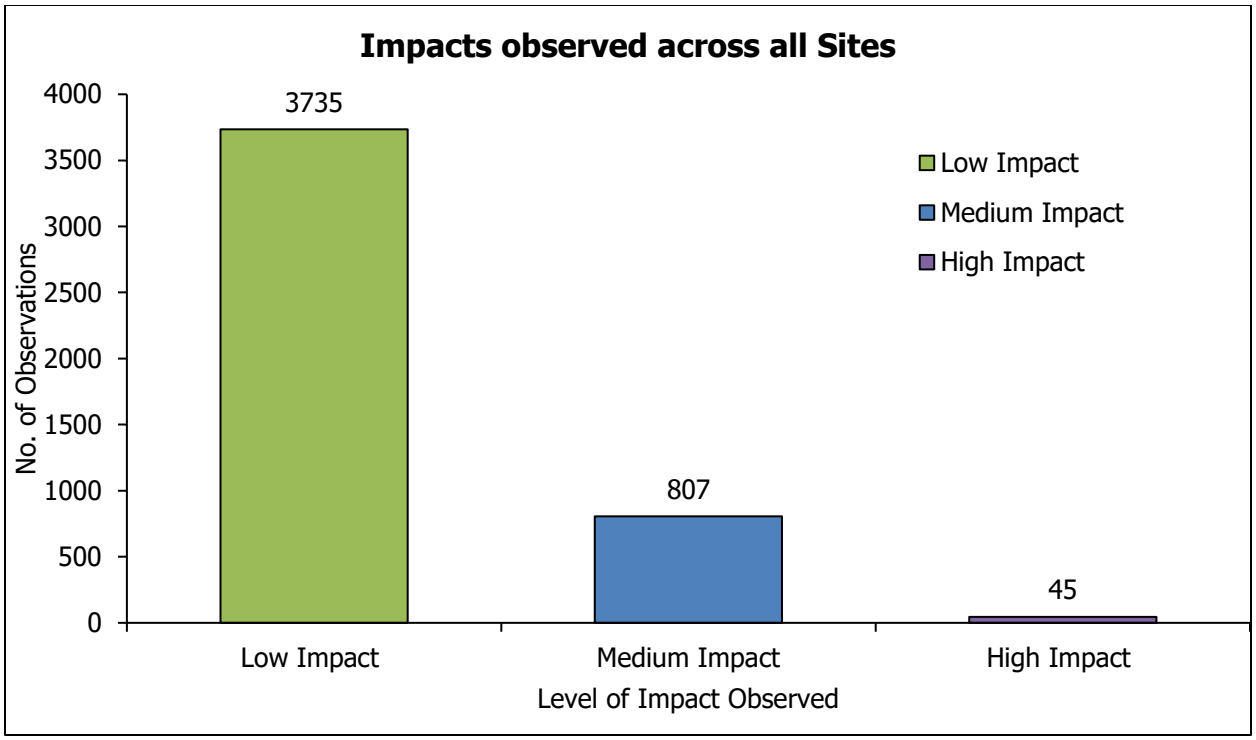


Figure 4.6 Overall level of Impact Observed Across All Site

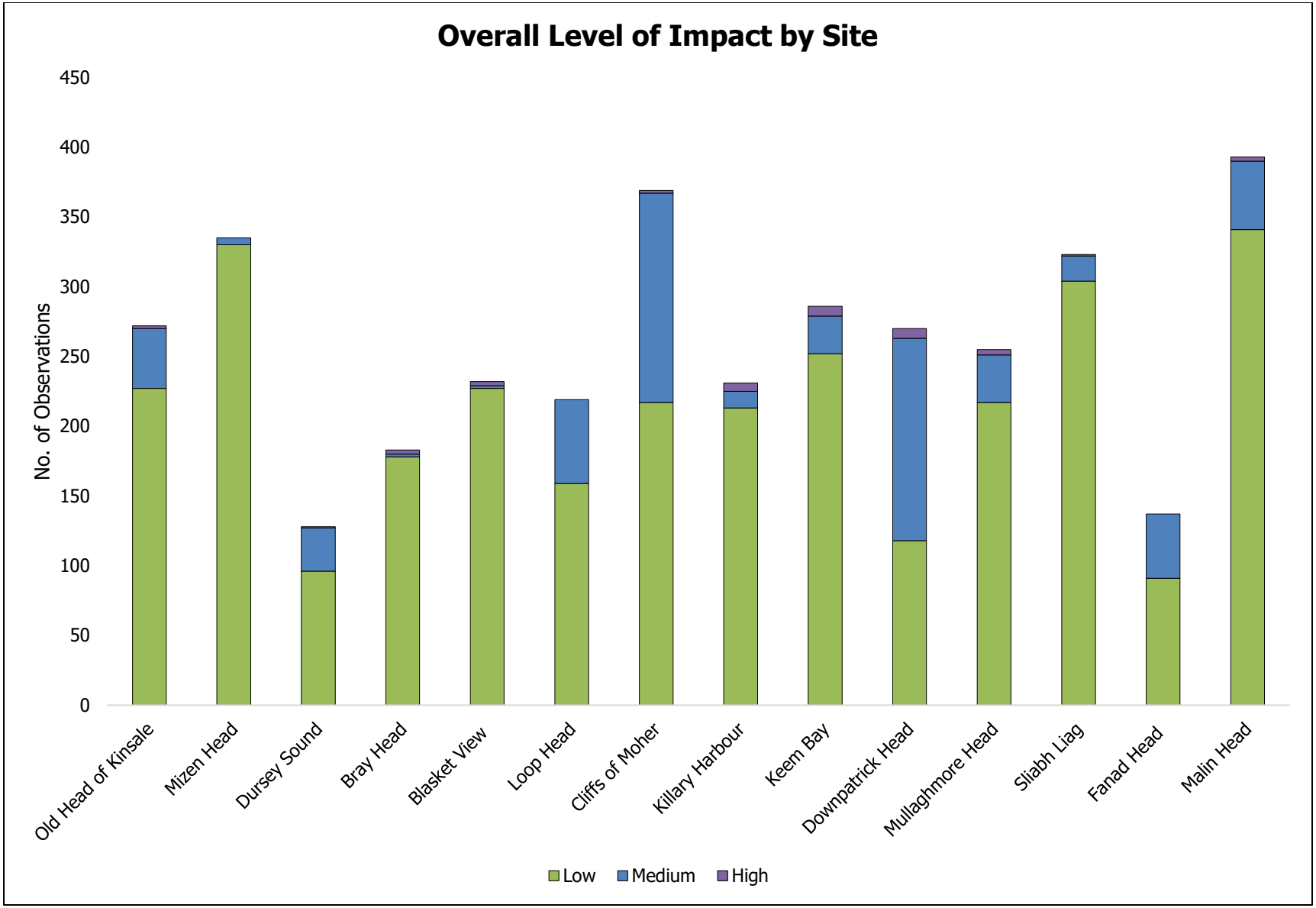


Figure 4.7 Level of Impact Observed of Impacts Observed across all sites

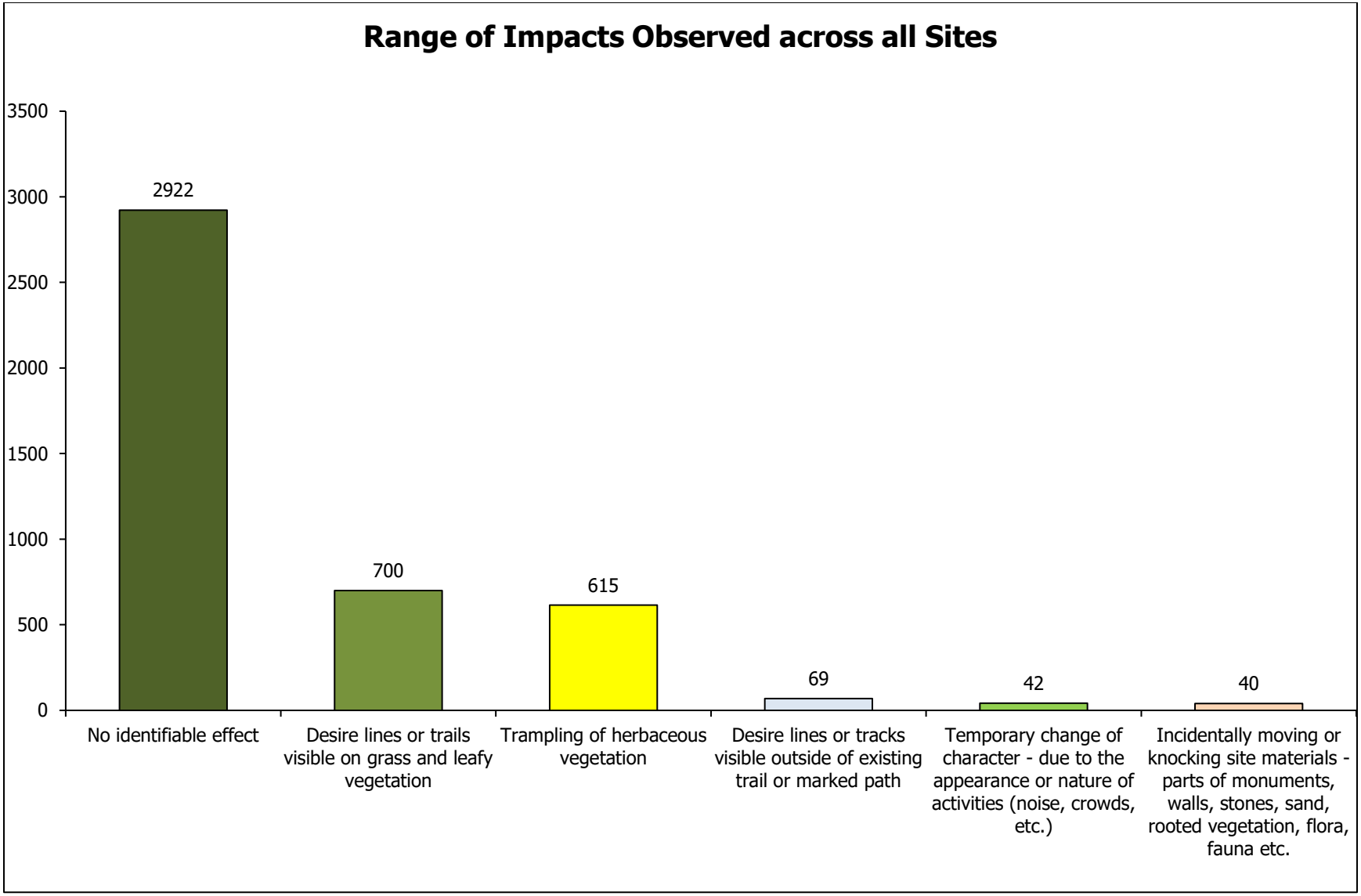


Figure 4.8 Range of Impacts Observed across all sites[16]

[16] Direct interference with site material - parts of monuments, walls, stones, sand, rooted vegetation, flora, fauna etc, Removal of material - parts of monuments, walls, stones, sand, rooted vegetation, flora, fauna etc, Vandalism or graffiti, Destruction of structures, vegetation or fauna, Heavy littering or dumping quantities of waste, Burning materials or lighting a fire, Injuring, killing or taking wildlife

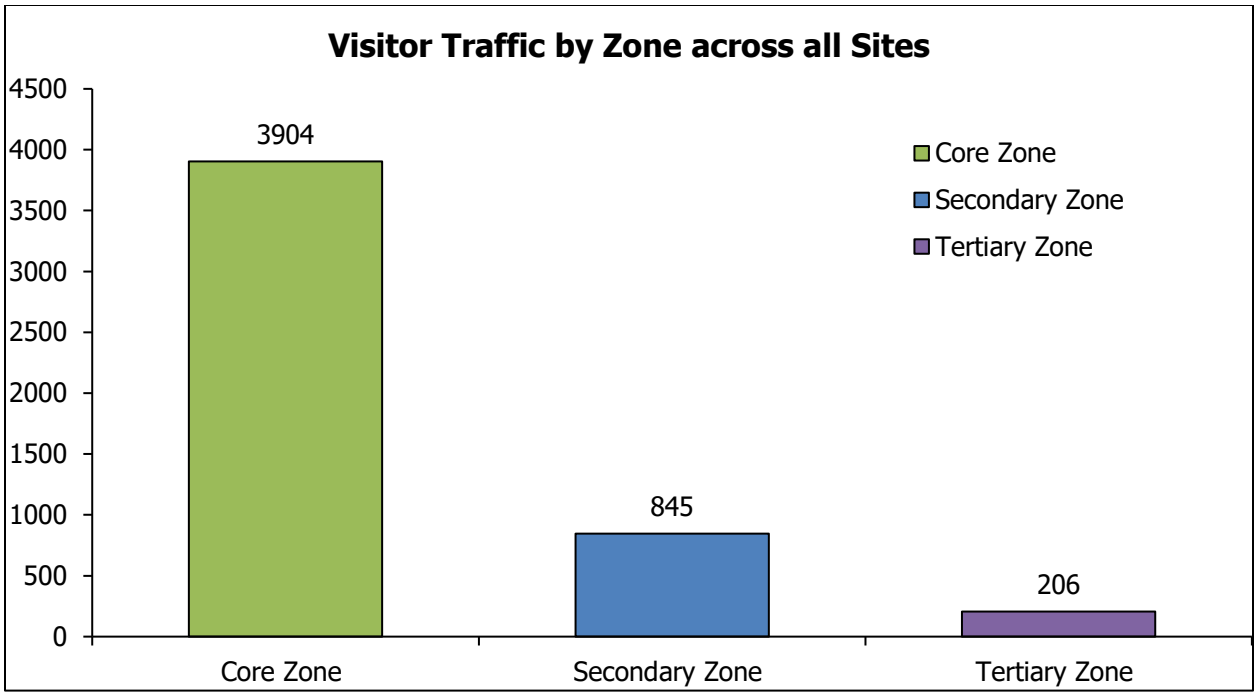


Figure 4.9 Zones trafficked by visitors across all sites

Section 5 Analysis of Results for all sites in 2018

5.1 General Analysis of Sites

Of the 10,472 visitors observed during the 2018 survey;

- Of the 10,472 visitors observed during the 2018 survey;
- 81% were reported to take part in low level activities on sites;
- 17% were reported to take part in medium level activities on sites;
- Less than 1% of all visitors were recorded to take part in high level activities on any of the sites;
- Cars where the most common mode of transport recorded across all sites during the survey;
- The Core zones were recorded to receive the most visitor traffic (78.8% of all movement recorded) and
- The average duration recorded across all sites was 00:46:00.

5.2 Site Based Evidence

- Mizen Head (95%), Blasket View (98%), Bray Head (98%) recorded no identifiable effects, these four sites are examples of good site management which in turn results to visitors having minimum environmental effects to any site;
- On analysis, it was noted that the longer visitors spent on site, the likelihood of environmental effects increased;
- 81.4% effects recorded on site were low i.e. walking on marked paths, resting, reading, photographing and sightseeing;
- A further 17.5% of all activities observed were medium level primarily caused by visitors leaving an existing marked trial or path;
- Of the 4571 environmental effects recorded, only 45 were determined to be high-level (less than 0.1%)
- 63.9% of visitor effects were recorded to have no environmental effect to the sites; and
- Since the 2015 survey there has been a rise in the number of visitors bringing drones to the sites (from none in 2015 to 8 recorded in 2018).

Section 6 Conclusions, and Trends Observed

6.1 Comparing 2015 to 2018 Results

- A total of **10,472** visitors were observed across the fifteen Signature Discovery Points; compared to **6,043** visitors recorded during the 2015 survey;
- Of the **10,472** visitors observed during the survey **81%** were reported to have a low impact on the sites; compared to the 2015 survey which recorded **89%** of visitors having a low impact;
- **17%** were reported to have a medium impact, **8%** where recorded to have medium effects in 2015**;**
- **0.9%** of all visitors where recorded to have a high impact in 2018, this is compared to **1.7%** having high-level impacts in 2015;
- Since the 2015 survey there has been a rise in the number of visitors bringing drones to the sites (from none in 2015 to 8 recorded in 2018);
- During the 2015 survey, Fanad Head lighthouse was closed to the public, it now operates on a guided tour basis;
- Sliabh Liag was undergoing upgrades to toilet facilities in 2015, it was observed that all works where completed during the 2018 survey;
- In 2015 Donegal county council approved planning permissions for new facilities at Malin Head which were apparent at the site in 2018;
- All sites with good visitor management in 2015 were also noted to have high levels of good Visitor Management in 2018 **(Old Head of Kinsale, Mizen Head and Blasket View);**
- **Cliffs of Moher** recorded heavy erosion because of visitor movement on the headland during the 2015 and 2018 surveys, it also had the biggest change in level of effects with only 26% having low level effects compared to 40% in 2015
- Each Site recorded a similar level of effect in 2015 and 2018 **(Table 6.1)**
- **Figure 6. 1 and Table 6.1 give detail on each site comparison for 2015 and 2018.**

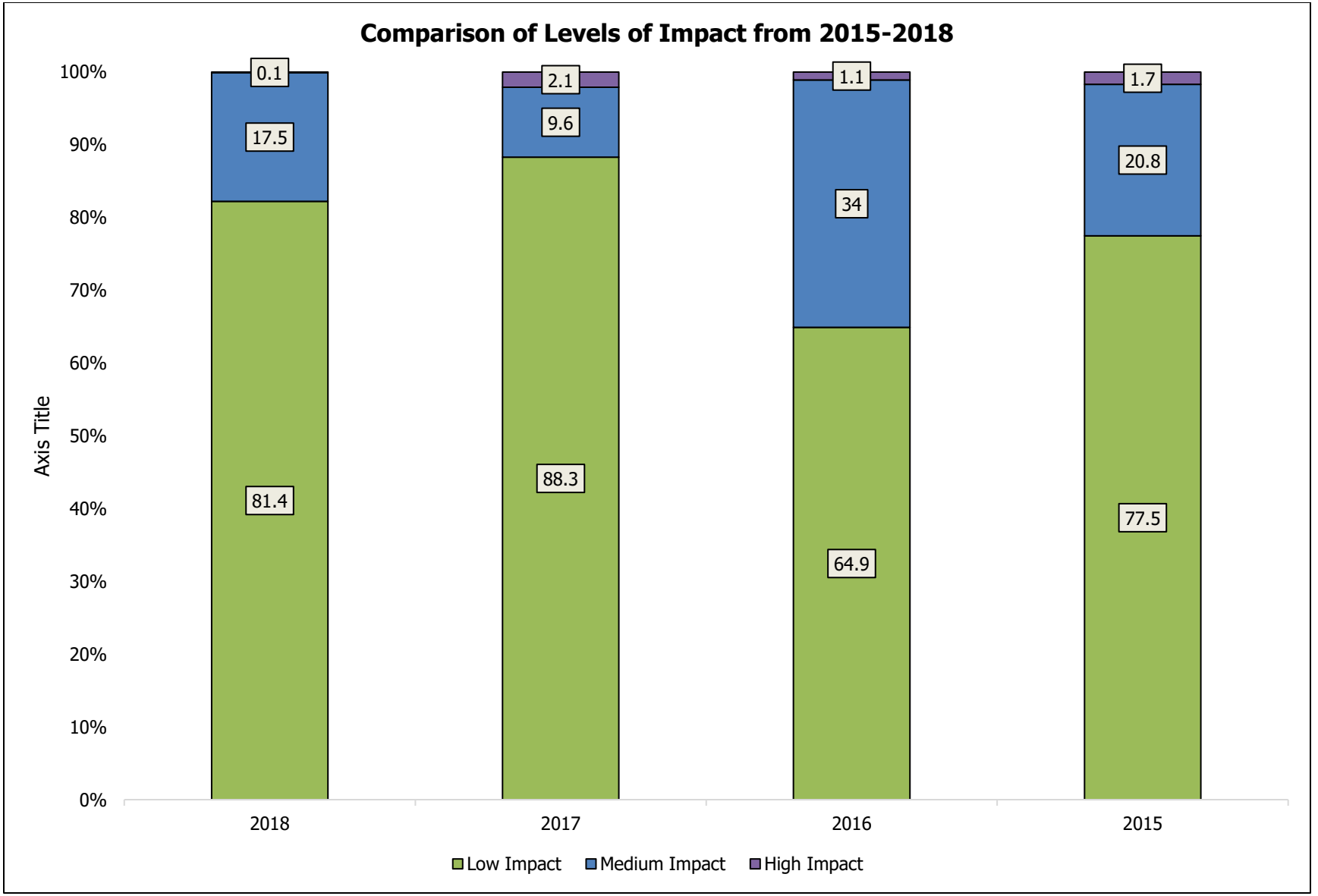


Figure 6.1 Level of Impact Observed from 2015-2018

Table 6.1 Visitor Observation Analysis Summary; detailed per site for 2015 and 2018

Site Name	County	Site Summary (2018)	Site Summary (2015)
Old Head of Kinsale	Cork	• 70% - No identifiable environmental effect • Good visitor management • 12% - Medium level activity - leaving paved areas.	• 75% - No identifiable environmental effect • 18% - Medium level activity - leaving paved areas
Mizen Head	Cork	• 95% - No identifiable environmental effect • 5% - Medium level activity	• 99% - No identifiable environmental effect • 1% - High-level activities • Good visitor management observed
Dursey Sound	Cork	• 52% - No identifiable environmental effect • 46% - Medium level activity- leaving desire lines • 1% - High-level activities	• 65% - No identifiable environmental effect • 29% - Medium level activity
Bray Head	Kerry	• 98% - No identifiable environmental effect • Good site management • 1% high-level- child throwing stones from cliff edge	• 98% - No identifiable environmental effect • 1% - high-level activities - temporary disturbance- discarding cigarette butt
Radharc na Mblascaoidi (Blaskets View)	Kerry	• Well managed site - 97% no identifiable environmental effects • Core zone was trafficked 259 times • Visitors aware of site sensitivities	• 94% - No identifiable environmental effect • 802 times- core zone was trafficked • 28 times- secondary zone was trafficked
Loop Head	Clare	• 80% - No identifiable environmental effect • 12% - trampling herbaceous vegetation • Zones trafficked by visitors - Core (211 times), Secondary (188 times) and Tertiary (4 times)	• 95% - No identifiable environmental effect • 2% - High-level activities- Removal of material
Cliffs of Moher	Clare	• 60% - Medium level activity • 40% - No identifiable environmental effect • Evidence of soil compaction, erosion and removal of vegetation through trampling • Core Zone trafficked 740 times • Tertiary Zone trafficked twice	• 26% - No identifiable environmental effect • 74% - Medium level activity • Areas with visitor management had best practice by visitors • Evidence of deeply eroded desire lines
Killary Harbour	Galway	• 84% - No identifiable environmental effect • 8% - Medium level activity • Core zone trafficked 234 times, tertiary trafficked once- water based activity	• 86% - No identifiable environmental effect • 9% - High-level activities • Core zone trafficked 87 times • Secondary zone trafficked 13 times
Keem Strand	Mayo	• 89% - No identifiable environmental effect • 9% - Medium level activity • Core Zone received most movement (154 times) • Tertiary Zone (74 times) - visitors using dunes to access beach	• 88% - No identifiable environmental effect • 4% - Medium level activity • 294 Times- Core zone trafficked • 36 Times- Secondary Zones Trafficked
Downpatrick Head	Mayo	• 55% - Medium level activity- trampling herbaceous vegetation, climbing church foundations • 44% - No identifiable environmental effect to the site • 1% high level activities- picking flowers at cliff edge.	• 81% - no identifiable environmental effect • 2% - medium level activity-throwing stones into the sea • 8% - High level activities - greyhound training
Mullaghmore Head	Sligo	• 85% - No identifiable environmental effect • 14% - Medium level activity- cars driving on long grass • Core Zone trafficked 176 times • Secondary Zone trafficked 156 times	• 97% - No identifiable environmental effect • Core trafficked 274 times • Secondary trafficked 34 times

Site Name	County	Site Summary (2018)	Site Summary (2015)
Sliabh Liag (Slieve League)	Donegal	• 95% - No identifiable environmental effects to the site • 5% - Medium level activities - jumping over fences • Core Zone movement (268) • Secondary Zone movement (9) •	• 94% - No identifiable environmental effect • 4% - Medium level activities • Core zone trafficked 189 times, Secondary zone trafficked 139 times • Tertiary zone trafficked 33 times
Cionn Fhánada (Fanad Head)	Donegal	• 59% - No identifiable environmental effect to the site • 19% - recorded trampling herbaceous vegetation • Core Zone trafficked 194 times; • Secondary Zone trafficked 28 times	• No Identifiable environmental effect on site • Core zone was trafficked 173 times • Secondary zone trafficked 100 times
Malin Head	Donegal	• 71% - No identifiable environmental effect to the site • 219 - Times core zone was trafficked • 118 - Time Secondary Zones was trafficked • 12% - Medium level activities at the site	• 75% - No identifiable environmental effect to the site • 13% - Medium level activities at the site • 182 - Times Core zone was trafficked • 185 - Times Secondary zone was trafficked

6.2 Recommendations

Site management is recommended where visitors spend more than 15/20 minutes at one site. When considering the level of management warranted at a site several factors should be considered:

- site size and dispersal;
- Level of activity recorded; and
- Average duration of time spent at site.

All sites should be evaluated and developed to ensure the correct facilities are put in place to deal with the level of footfall each site receives. Interventions can include the removal of infrastructure and the management of visitor movements through a remote visitor centre with shuttle services provided. If sites are left without any intervention, effects that are currently not causing significant impacts, may in the long-term cause effects to worsen. Visitor loadings and carrying capacities should be monitored regularly at any tourist destination. The following are some general suggestions for some of the signature discovery points for their future management:

- At sites with little or no signage, it is suggested to erect new signage at access points and car parks to make visitors aware of the sensitivities associated with the site **(Old Head of Kinsale);**
- Sites where visitors frequently take part in recreational activities could be facilitated by a warden during months in which sites have the highest visitor numbers **(Keem Strand);**
- Any usage of drones at discovery sites should be managed correctly;
- Improve/review interpretive materials to inform visitors of any sensitive areas at all sites and how to behave in said areas;
- Information notices at sites with upland heathland systems should be erected to inform visitors of the highly sensitive nature of the habitats present and to be aware of sticking to marked trails and paths **(Sliabh Liag, Malin Head and Loop Head).**

Note: Where recommendations are executed by the relevant authority at site level as a result of this monitoring programme compliance with the EU Habitats Directive (Council Directive 92/43/EEC), associated national regulations and relevant planning and consent processes as will be required.

6.3 Yearly Trends

Over the last four years of Observational Surveying carried out along the Wild Atlantic Way, evidence has shown that the smaller less disperse sites receive less visitor movement which in turn results in fewer environmental impacts.

Well managed sites have low levels of effects and in most cases over 95% of visitors have no identifiable environmental effect if managed appropriately.

The 2018 survey recorded the largest number of visitors and in turn recorded the largest number of effects to the 15 chosen sites. However, the fewest number of high-level activities (45) were recorded in 2018 due to the effective management strategies employed at the sites.

Statistical analysis shows that there is no significant difference in activity levels year on year ($\chi 2 = 12.00$; $p = 0.213$). There is no significant difference in activity levels specifically between the environmental effects observed in 2018 and 2015 across all sites ($\chi 2 = 2.00$; $p = 0.157$). Thus, the overall activity levels identified each year are similar in nature.