NATIONAL TOURISM MONITORING PROGRAMME 2021-2025

ANNUAL RESULTS FOR 2022

KEEM BAY ACHILL

for: **Fáilte Ireland**

88 – 95 Amiens Street

Dublin 1

D01 WR86

by: **CAAS Ltd.**

1st Floor,

24-26 Ormond Quay Upper

Dublin 7

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Document Control

	Author/Reviewer	Date
Prepared by	Andrew Torsney & Callum O'Regan	Various dates to 02 February 2023
Reviewed by	Conor Skehan & Maeve Walsh	02 February 2023
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Contents

Keem Bay Achill – Interesting Finds

ECOLOGICAL HIGHLIGHTS

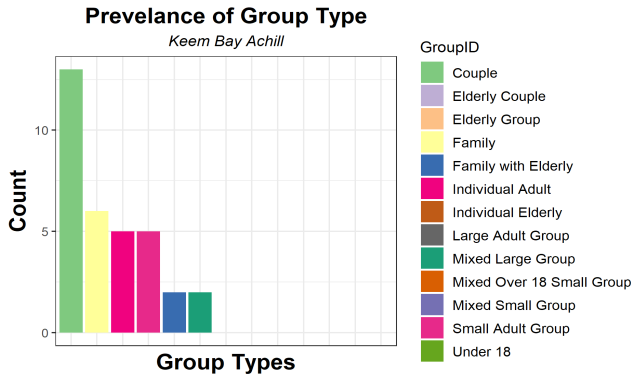
High quality heathland habitat which is protected under the EU Habitats Directive. Heathland is an important habitat for carbon storage.

The bay itself is known to host seasonal migratory species such as the basking shark. It also has highly important marine community compositions on the cold-water reefs.

The wider bay is used by a number of foraging sea birds such as gannets and herring gul.

VISITOR NUMBERS AND DWELL TIME

- 106 people visited the site over 8 hours
- Average dwell time of 32 minutes
- Changes since last survey include a decrease of 48% of visitors recorded and a decrease of 38% in dwell time from last year



KEY RECOMMENDATIONS

- Measure for controlling camping and camping related activities such as BBQing should be implemented.
- The introduction of a path management system could help alleviate pressures facing the site.
- It is recommended that a seasonal warden/ environmental awareness tourism engagement officer be appointed.
- Introduction of increased signage on site.

Highlights:

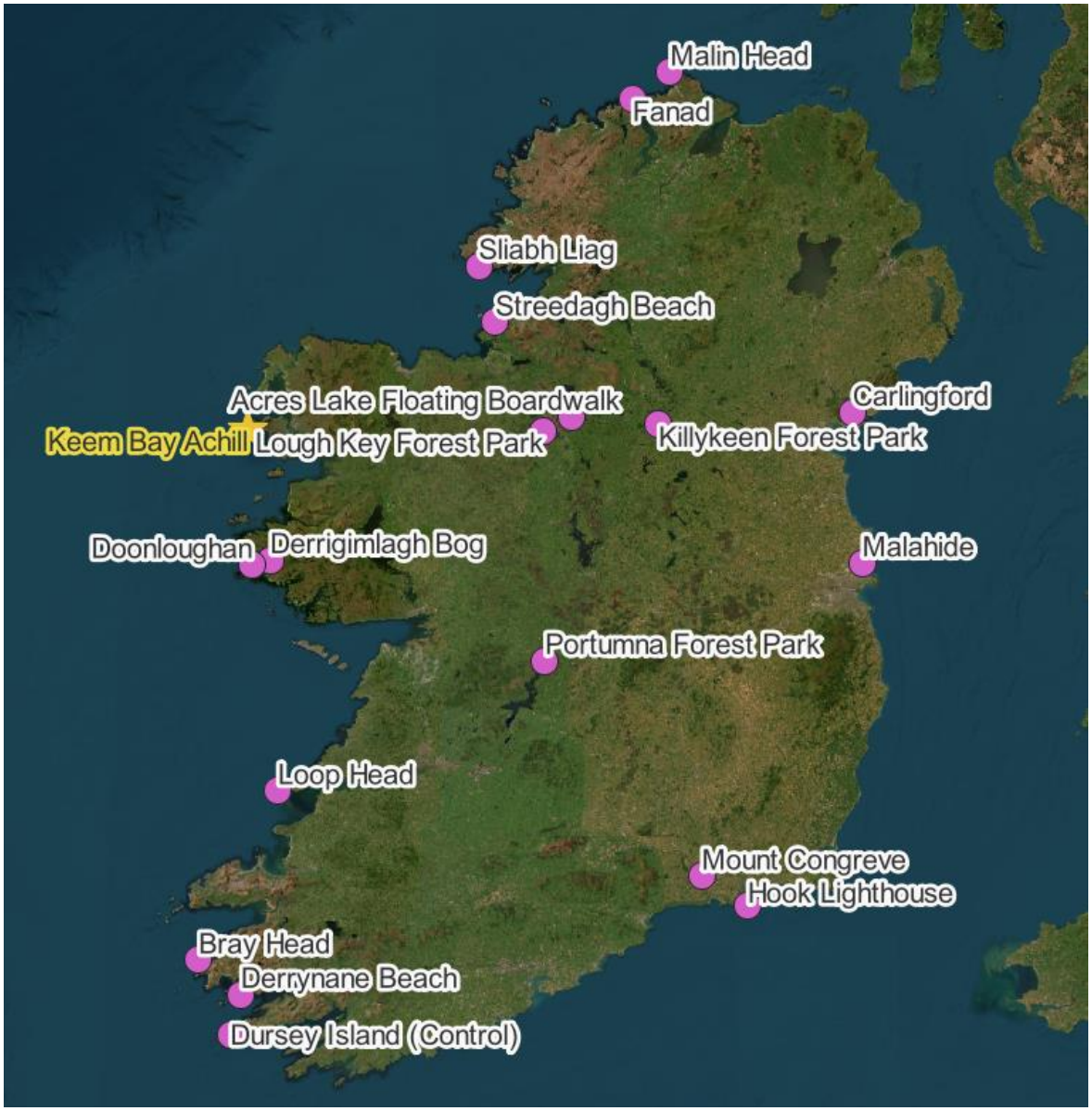
- Increase in number of impacts despite almost a 50% reduction in visitor numbers.
- Limited signage on site.
- Given the nature of the site, there are high levels of camping observed on site
- Increase in activities off trail and decrease in aquatic related activities.

1 Keem Bay Achill

1.1 Purpose & Outputs of the Programme

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

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



The purpose of the programme is as follows:

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

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

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

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

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

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

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

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

1.1.1 Looking Ahead

The National Tourism Monitoring Programme aims to assess and characterise visitor movements and impacts in 19 popular Failte Ireland tourism sites across Ireland within a 5-year period. This will be achieved through building on the methodologies and findings of the Wild Atlantic Way Environmental Monitoring Programme (2015-2019), by monitoring yearly trends in visitor numbers and movements during the high tourism season at each site. In addition to the annual visitor trend monitoring; visitor impact assessments, which examine visitor activity levels relative to condition assessments, will also be taken every two years for each site. At the end of the 5-year period, the resultant extensive data set will be analysed for long term trends and correlations between visitor numbers, visitor activity, and site condition assessments, at each site across the 5 years of the programme.

This monitoring programme will allow an examination of year-on-year shifts in visitor impact and trends, across each of Fáilte Ireland's regional areas; The Wild Atlantic Way, Irelands Hidden Heartlands, Irelands Ancient East and Dublin, resulting in an annual interim report for each year - while also assessing visitors trends, and changes in the condition of the each of the sites' habitats in relation to visitor trends, over a the entire 5-year period of the programme.

The long-term aim of the Monitoring Programme will be to inform local authorities and stakeholders to help in the design and implementation of methods that will encourage the sustainable management of visitor numbers and tourism activities, while also aiming to protect vulnerabilities of the local area's habitats in order to reduce environmental impact and enable more effective local conservation of each site.

1.2 Methods & Surveys

The following surveys were undertaken at Keem Bay:

1.2.1 Visitor Characterisation Survey

Visitor characterisation surveys were undertaken at each of the monitoring sites during the weekend period between June-August. The survey at Keem Bay Achill was undertaken on the 26th of August 2022, with max temperatures reaching approximately 17.8° C, high levels of rainfall and moderately levels of wind on the day[1]. These surveys followed an 8-hour time period recording samples of visitor behaviour of an many visitors on site as possible. Visitor movement patterns, demographic data and activities undertaken were recorded for all sampled visitors. Where activities had associated impacts, these were also recorded and the relevant severity was recorded using the same coding system as with the WAW monitoring (see Appendix I for details). It is important to note that the visitor characterisation surveys are indiscriminate between visitors and local amenity use. It is also important to note that there was a lack of interaction with the subject matter of the surveys to ensure that there is no influence of the surveyor at all on the resultant data.

1.2.2 Ecological & Path Assessments

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

1.3 Site Description of Keem Bay Achill

Keem Bay is located on the west coast of Achill Island in County Mayo, just past the village of Dooagh. Keem Bay contains relatively isolated and protected beach (Figure 2.1) that is popular for various water sports. It is well managed with parking and visitor facilities. The area itself makes up part of both the Coraghuan/Slievemore and Achill Head Special Areas of Conservation and contains multiple habitats such as wet heath, sand shores and sedimentary sea cliffs. The site is used as one of the access points by walkers on the The Croaghaun Cliffs Walk. That lie to the west of the Bay.

There have been no significant changes in signage and features between the 2021 and 2022 surveys. However, there are plans to improve Keem Bay by constructing a skywalk on site, improvement of an existing mountain trackway, improving road access and construction of car parks and pedestrian access paths.

[1] Weather data gathered from closest available weather stations to site from: https://www.met.ie/climate/available-data/historical-data

Figure 1.1 Keem Bay Achill

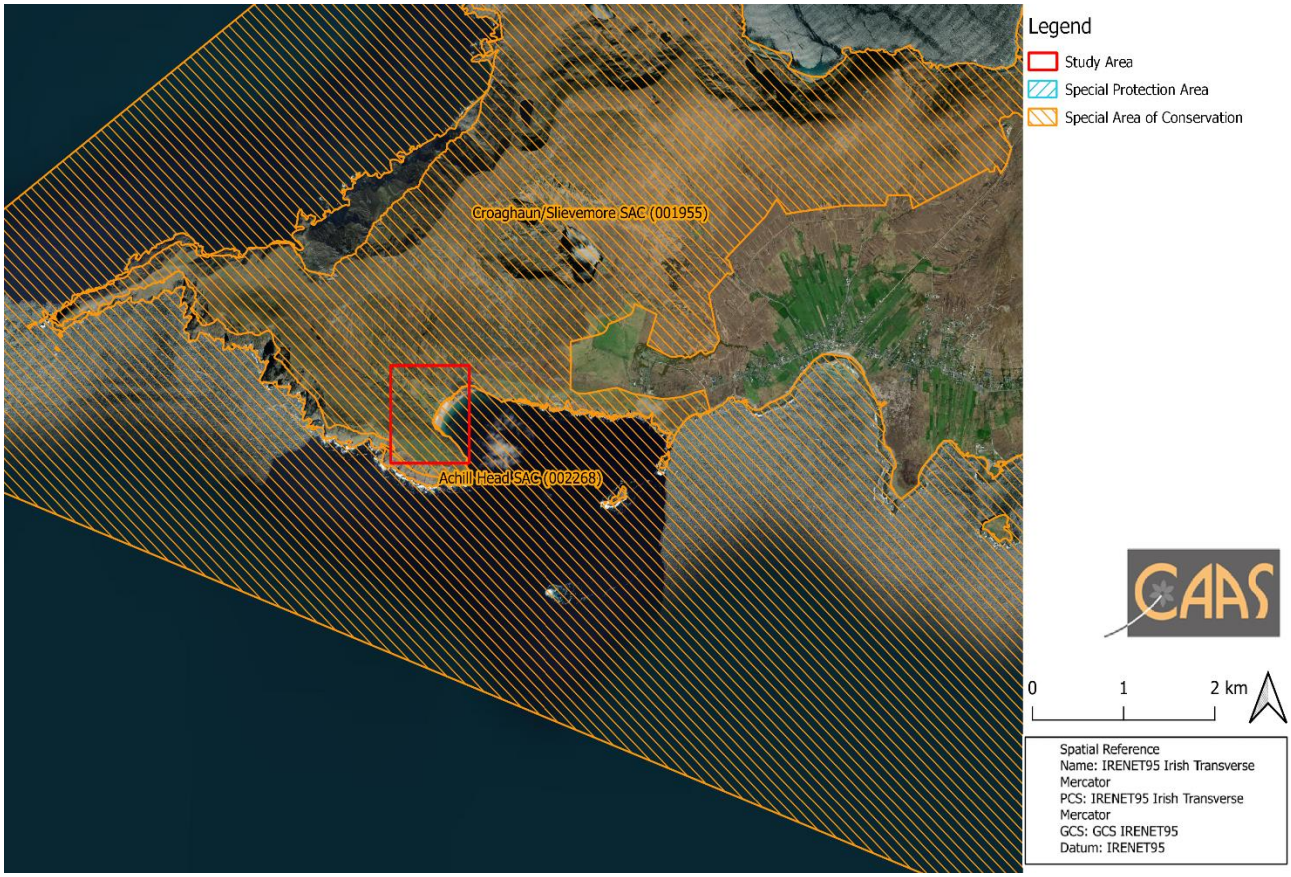


Figure 1.2 Study Area within Achill Head SAC

1.3.1 Critical Infrastructure

Table 1.1 Summary of Wastewater infrastructure at Keem Bay Achill

Wastewater Treatment Plant (WWTP)	Irish Water Indication of Capacity	Comment
Toilet facilities are available on site. No current WWTP on site at Keem Bay Achill. Nearest serviced with WWTP is Keel-Dooagh (Achill Island Central WWTP Reg #D0072).	Potential spare capacity to be considered on case-by-case basis[2].	Current wastewater facilities are sufficient if visitor numbers increase. There is wastewater treatment infrastructure available within the treatment plant as stated in the Mayo CDP 2022-2028[3] if further wastewater facilities are introduced on site.

Table 1.2 Summary of Drinking Water infrastructure at Keem Bay Achill

Drinking Water	Water Resource Name (WRZ)	Irish Water Indication of Capacity	Comment
Nearest serviced settlement to Keem Bay Achill is Keel-Dooagh.	Achill	Capacity available – Level of service (LoS) improvement required[4].	Current water supply is sufficient if visitor numbers increase.

Table 1.3 Summary of Transport infrastructure at Keem Bay Achill

Nearest Settlement	Current Transport Infrastructure	Comment
Dooagh	Keem Bay Achill is accessible via the R319 and pedestrian walkways	Parking on site is an issue for visitors. However, there are plans to create a car park on site along with improving road and pedestrian accessibility

1.4 Pathways and Features Condition Results

1.4.1 Pathway Condition

The site has hard infrastructure access tracks to the beach – these have clear signs of being undersized with the edge habitats eroding with heavily compacted substrate. The trail to the cliff edge is a vegetated trail which is highly variable with a number of breakout points evident throughout. This path is up to 10m in width at its widest point. Erosion and damage to the path is most evident at the steep incline elements. Substrate exposure levels typically ranged from 15-30% showing the trail is over capacity.

[2] https://www.water.ie/connections/developer-services/capacity-registers/wastewater-treatment-capacity-register/mayo/
[3] https://www.mayo.ie/getmedia/b741586b-9ced-4967-be50-21141bf55b97/Settlement-Asset-Capacity-Matrix.pdf
[4] https://www.water.ie/connections/developer-services/capacity-registers/wastewater-treatment-capacity-register/mayo/

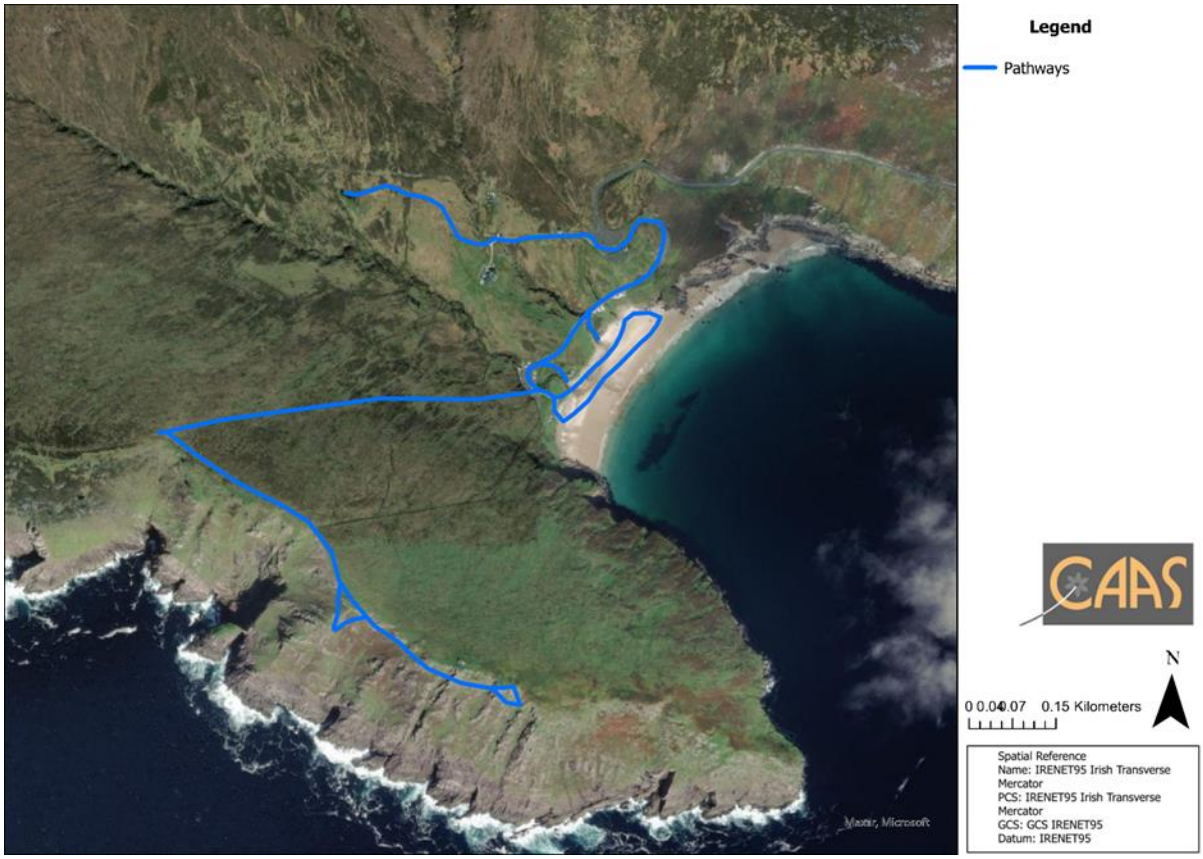


Figure 1.3 Pathways identified at Keem Bay Achill

Figure 1.4 Pathways at Keem Bay Achill

1.4.2 Features Condition

The signage at Keem Bay Achill contains information regarding wildlife which can be seen in the area, and trail maps (Figure 1.6). Also present are water safety signs with regard to safety when undertaking leisure and recreational activities and man-made signs prohibiting campfires. Also dotted around the area are bins, benches and a small number of disused buildings. Along with these, there are also facilities for lifeguards.

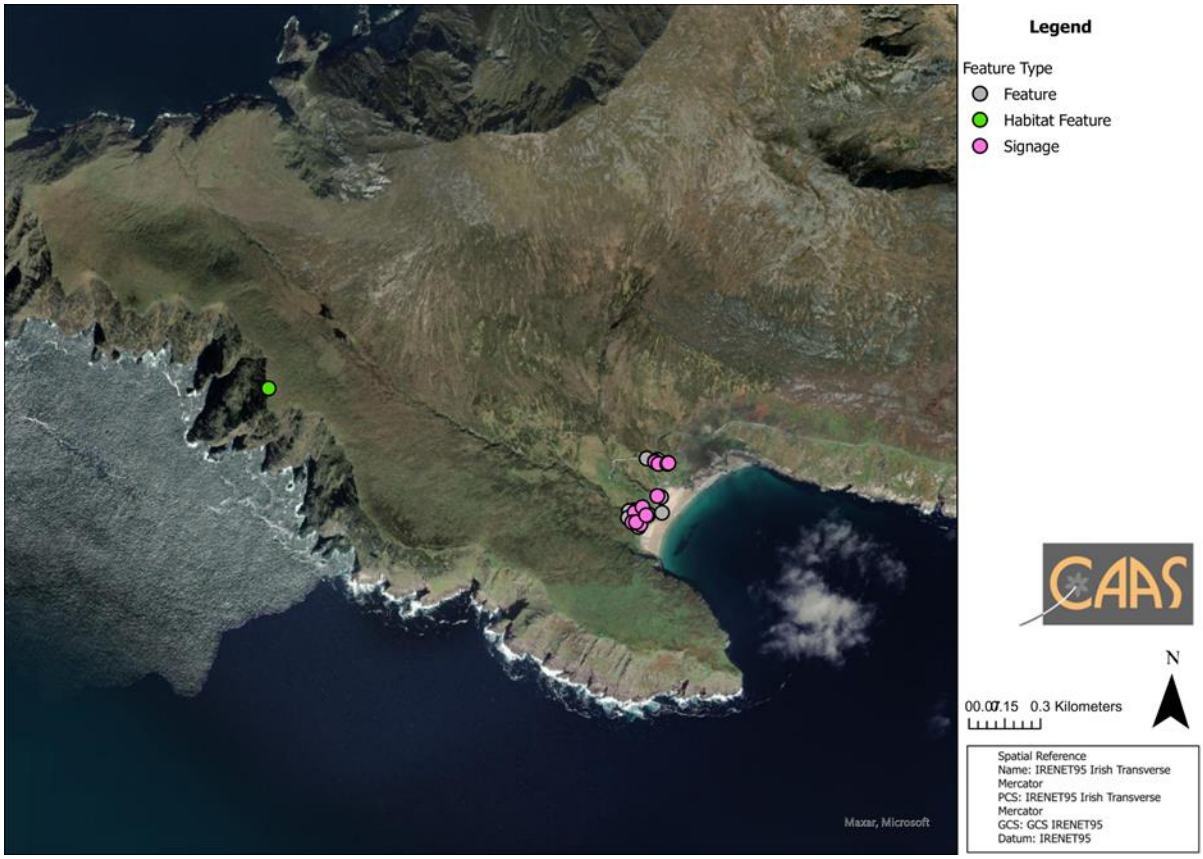


Figure 1.5 Features recorded at Keem Bay Achill

Figure 1.6 Signs at Keem Bay Achill

1.4.3 Hazards

Multiple impacts were noted at Keem Bay Achill including, a large number of fire pits and burned areas that were visible close to the beach area (Figure 1.7). Along with this, a number of desire lines were noted along with signs of camping. The cliff top paths to the west of the bay have very high unprotected exposure to high steep cliffs.

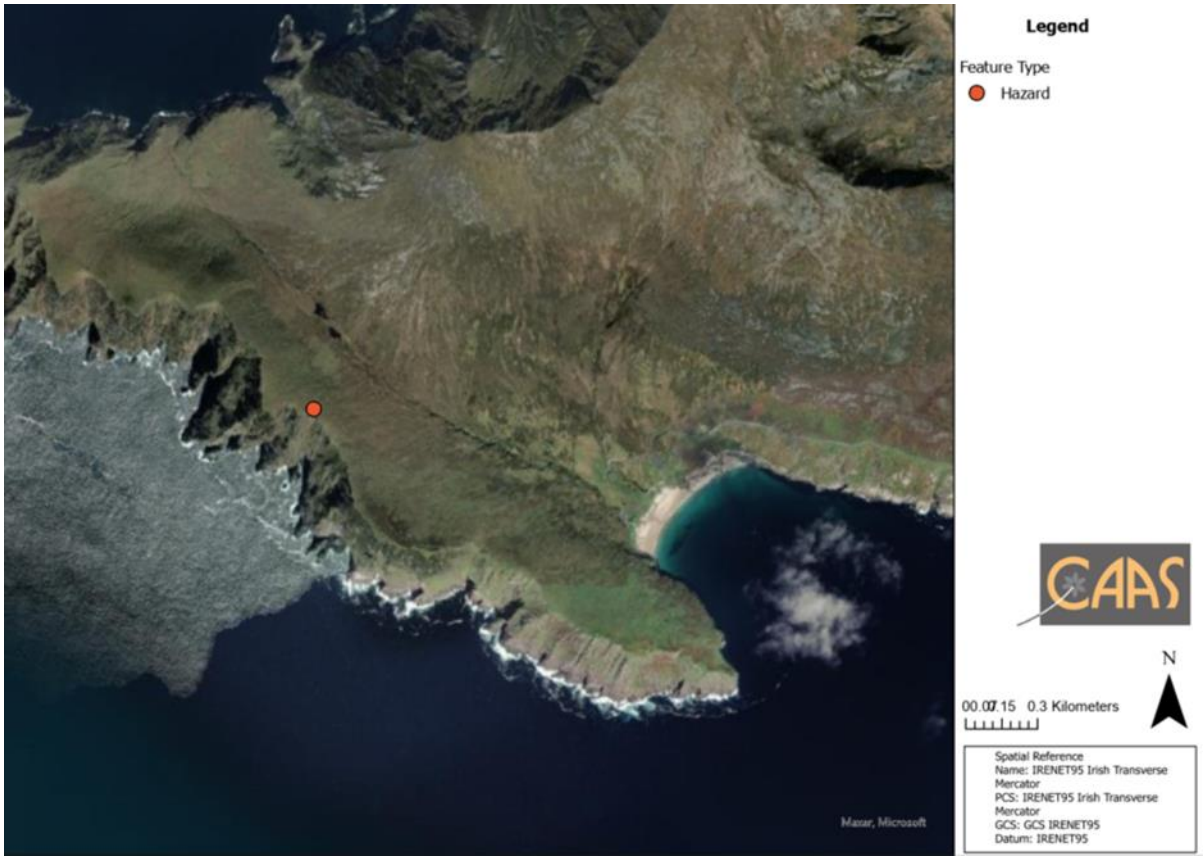


Figure 1.7 Hazards recorded at Keem Bay Achill

Figure 1.8 Remnants of a campfire at Keem Bay Achill

1.5 Visitor Characterisation Survey

The visitor monitoring surveys resulted in a total of 106 visitors (which represent 33 group observations) a large decrease from 220 in 2021. The site is most popular amongst the couple group with the dominant mode of transport being car. The average dwell time for the site was 32 minutes a decrease from 85 minutes in 2021; with the following activities undertaken during the survey (listed in order of occurrence rate):

Activity Type
Exploring off trail
Photographing
Swimming
Camping
Causing damage
Dogwalking (on lead)
Other
Building sand castles
Shell collecting
Snorkelling

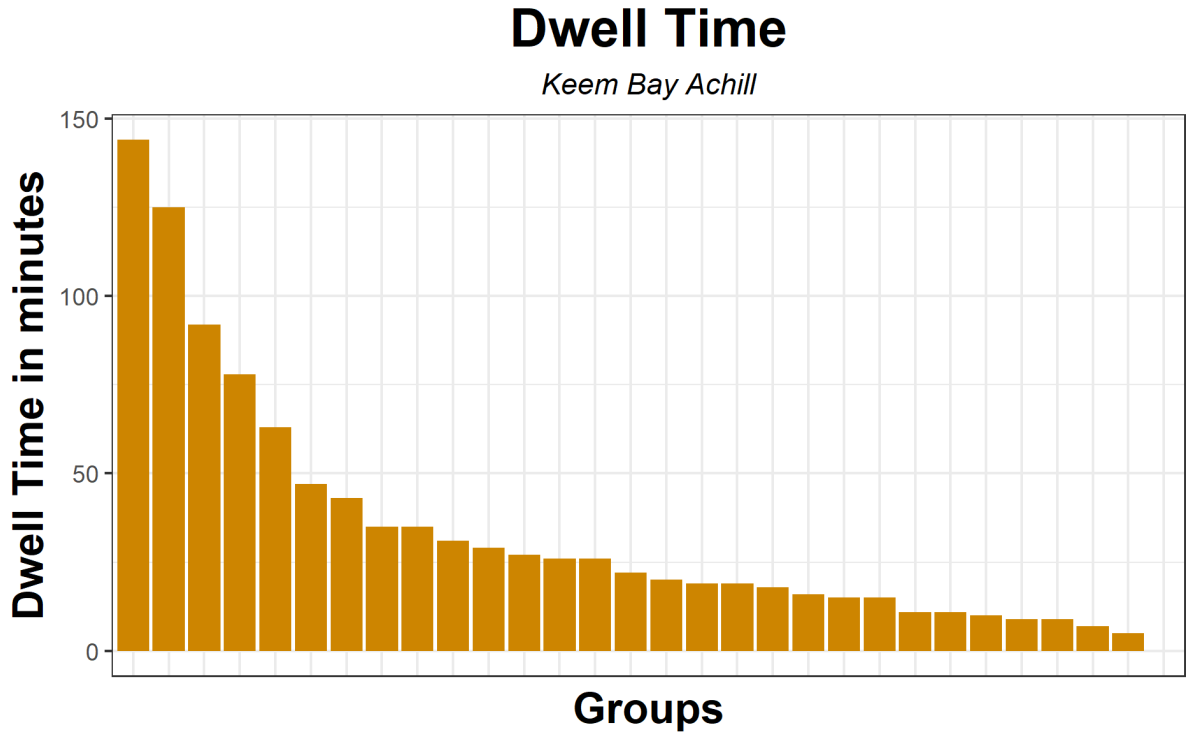


Figure 1.9 Duration of Time Spent at Keem Bay Achill

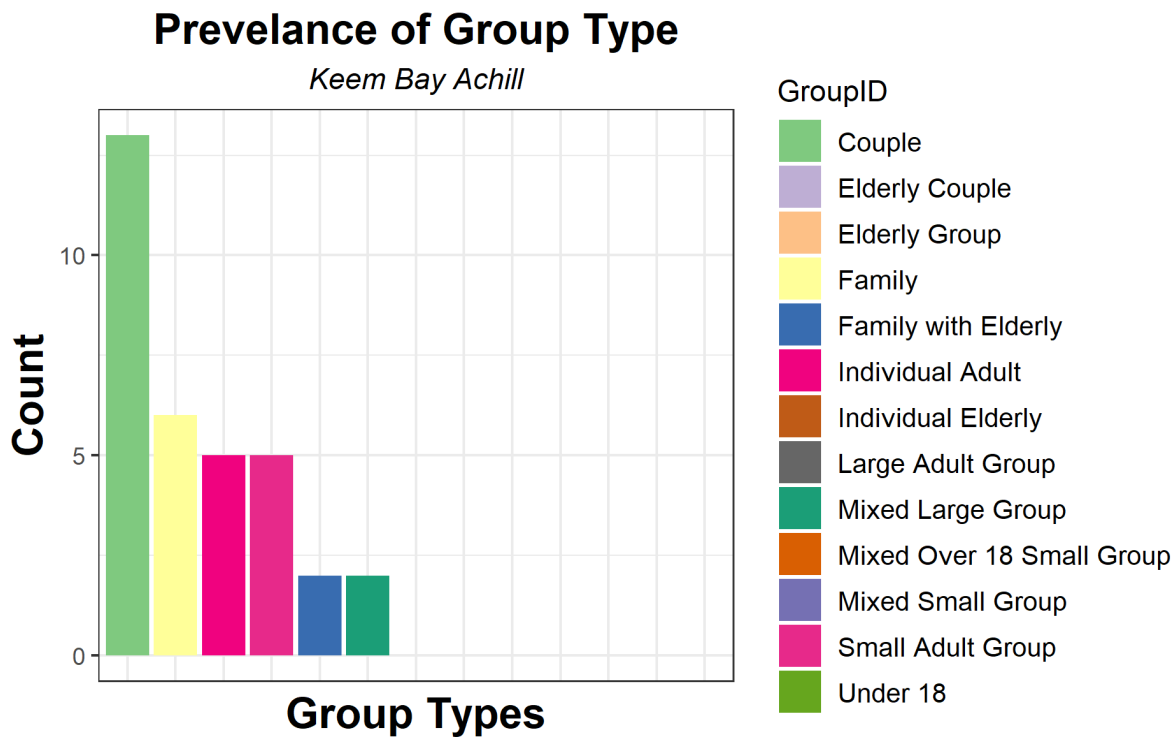


Figure 1.10 Groups of visitors that visited Keem Bay Achill

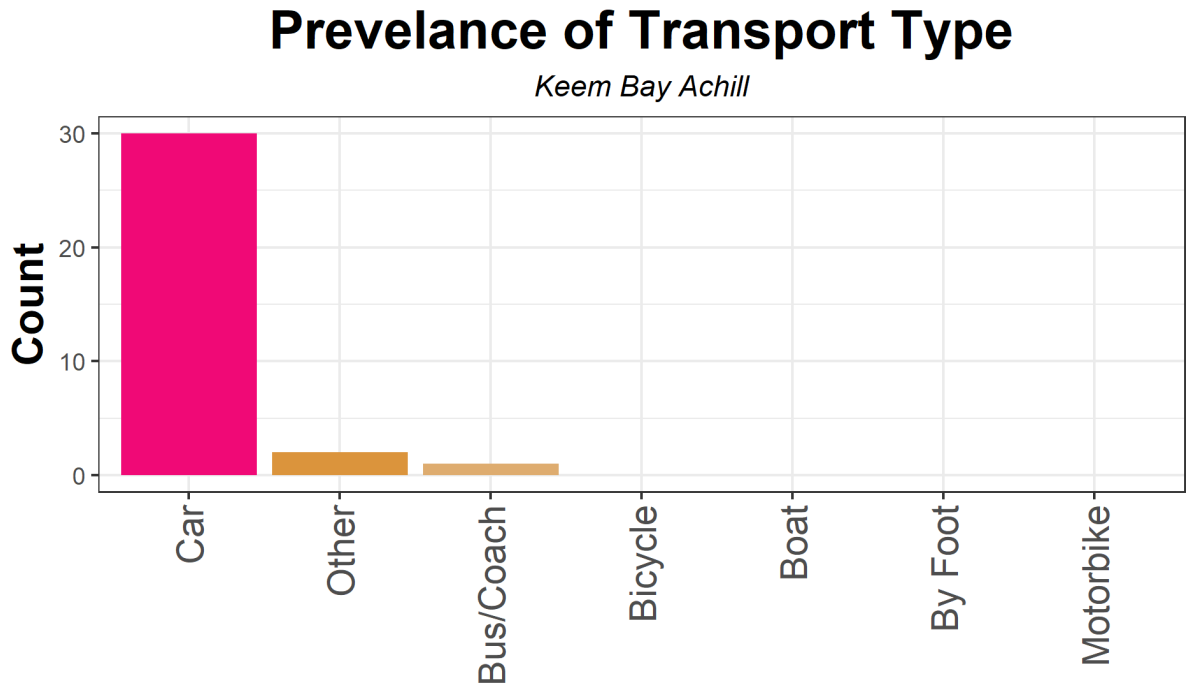


Figure 1.11 Mode of transport used to visit Keem Bay Achill

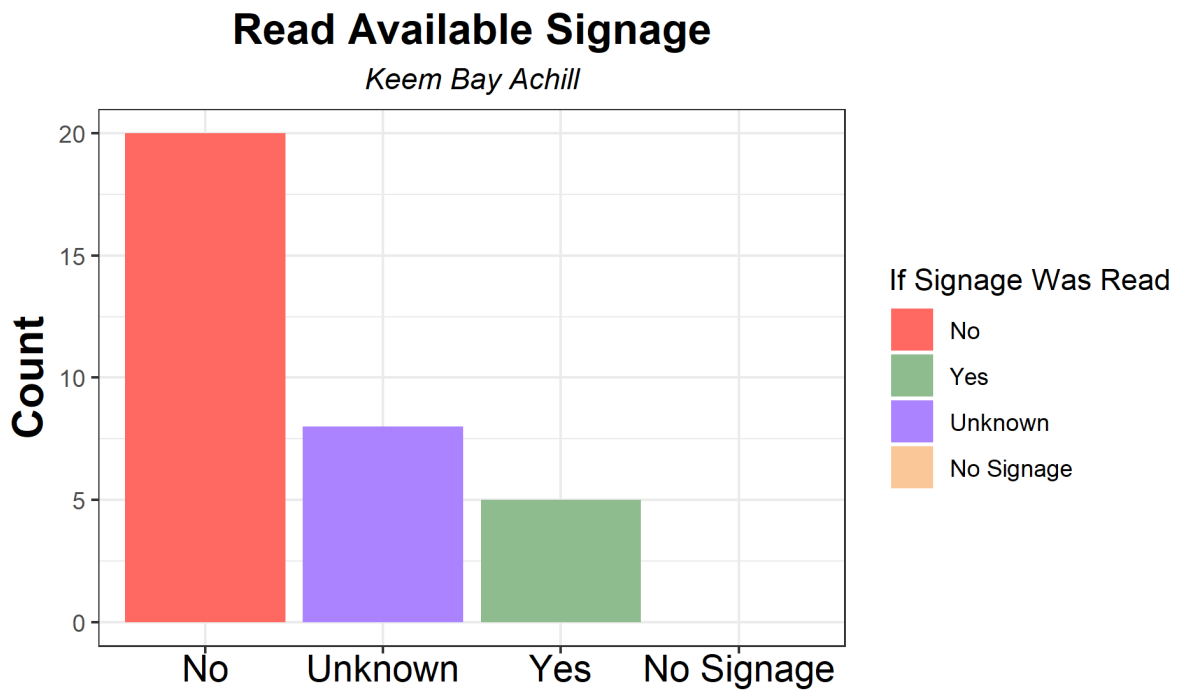


Figure 1.12 Use of Interpretive Material at Keem Bay Achill

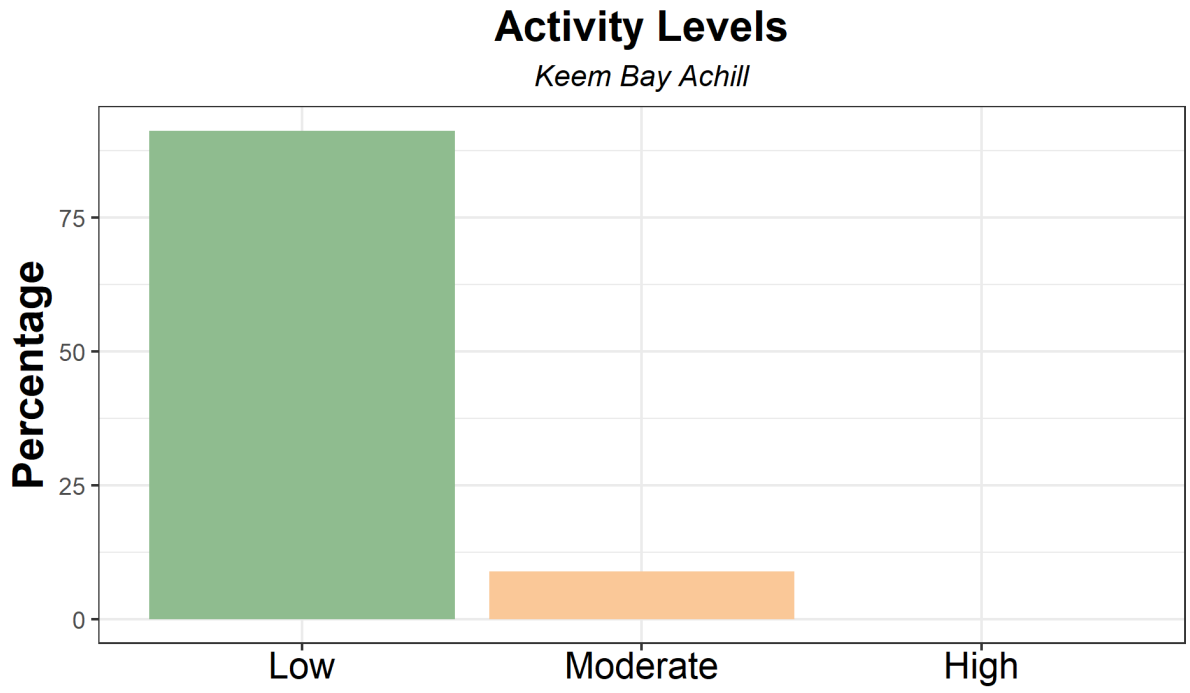


Figure 1.13 Categories of Activity Levels Observed at Keem Bay Achill

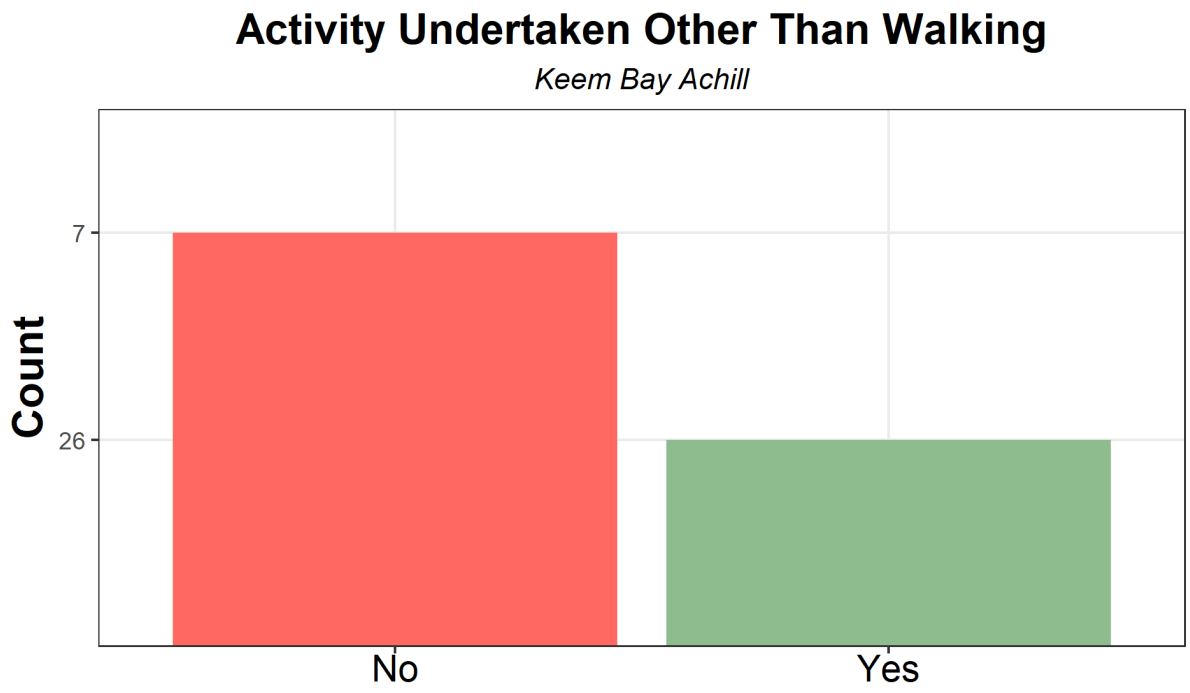


Figure 1.14 Activities undertaken other than walking

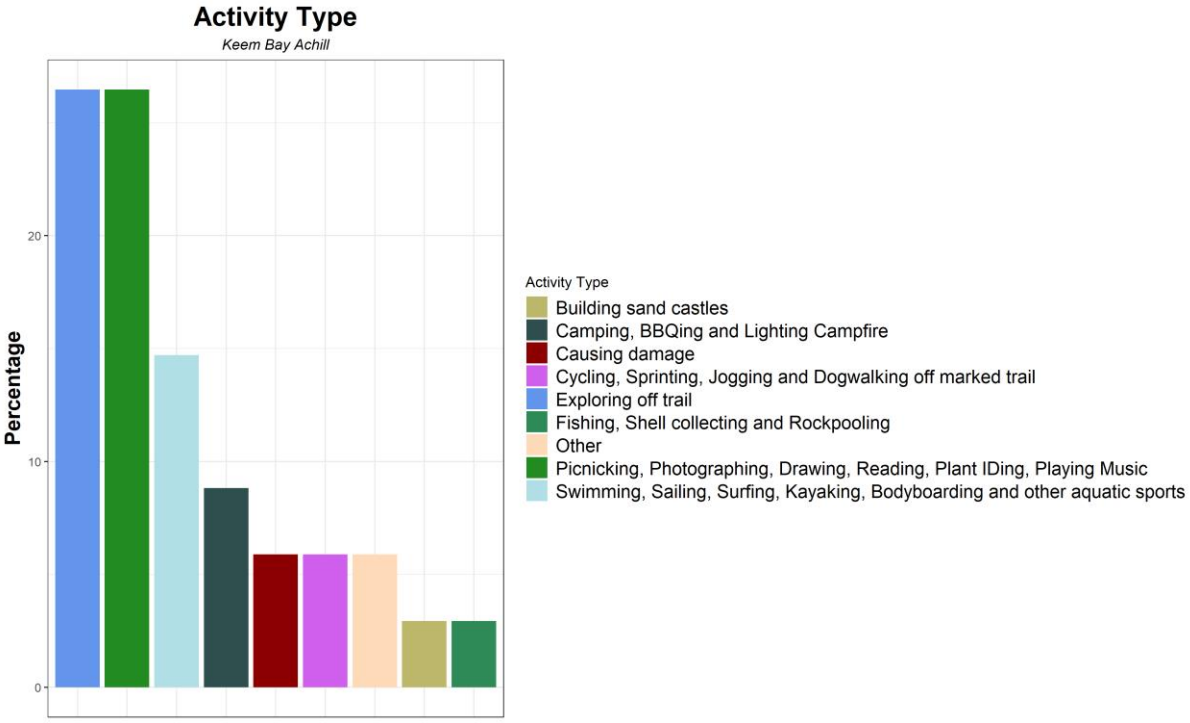


Figure 1.15 Range of Visitor Activities Observed at Keem Bay Achill

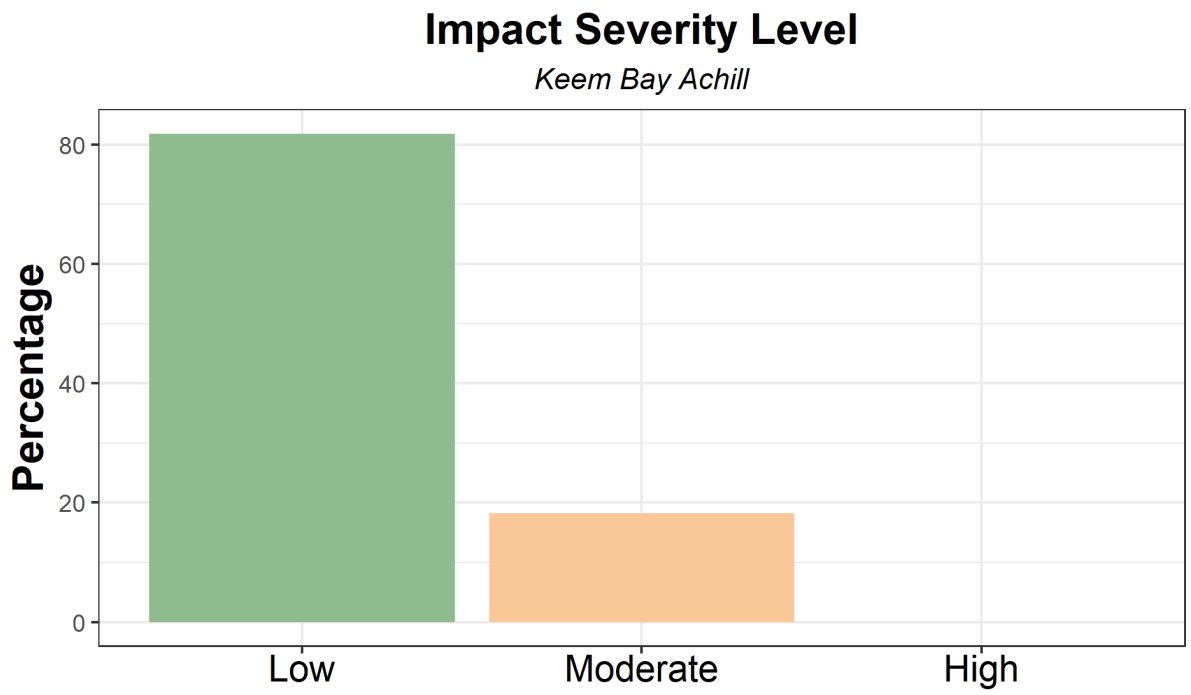


Figure 1.16 Categories of Environmental Impact Levels Observed at Keem Bay Achill as a result of Visitor Activities[5]

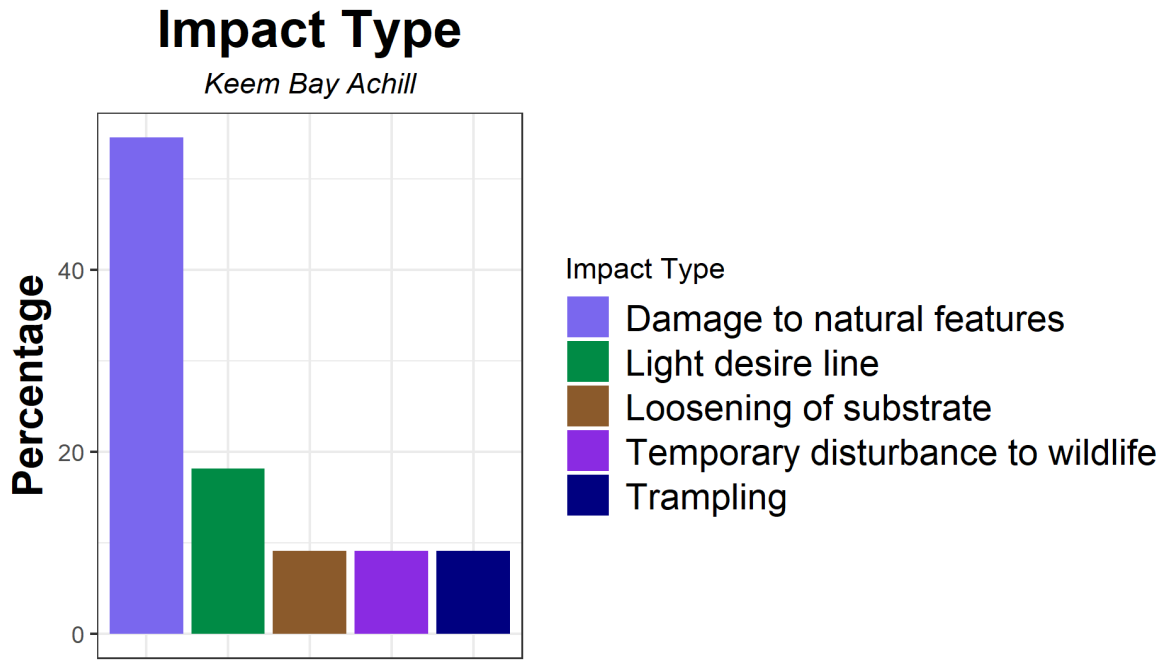


Figure 1.17 Range of Environmental Impacts Observed at Keem Bay Achill

The environmental impacts that were observed and recorded used the same coding system as the Wild Atlantic Way Monitoring[6]. These impacts were recorded if a visitor's activity or movement resulted in one of the defined impacts noted in said coding system, which were categorised by severity level to the environment, ranging from light desire lines to disturbance of wildlife to burning of materials.

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

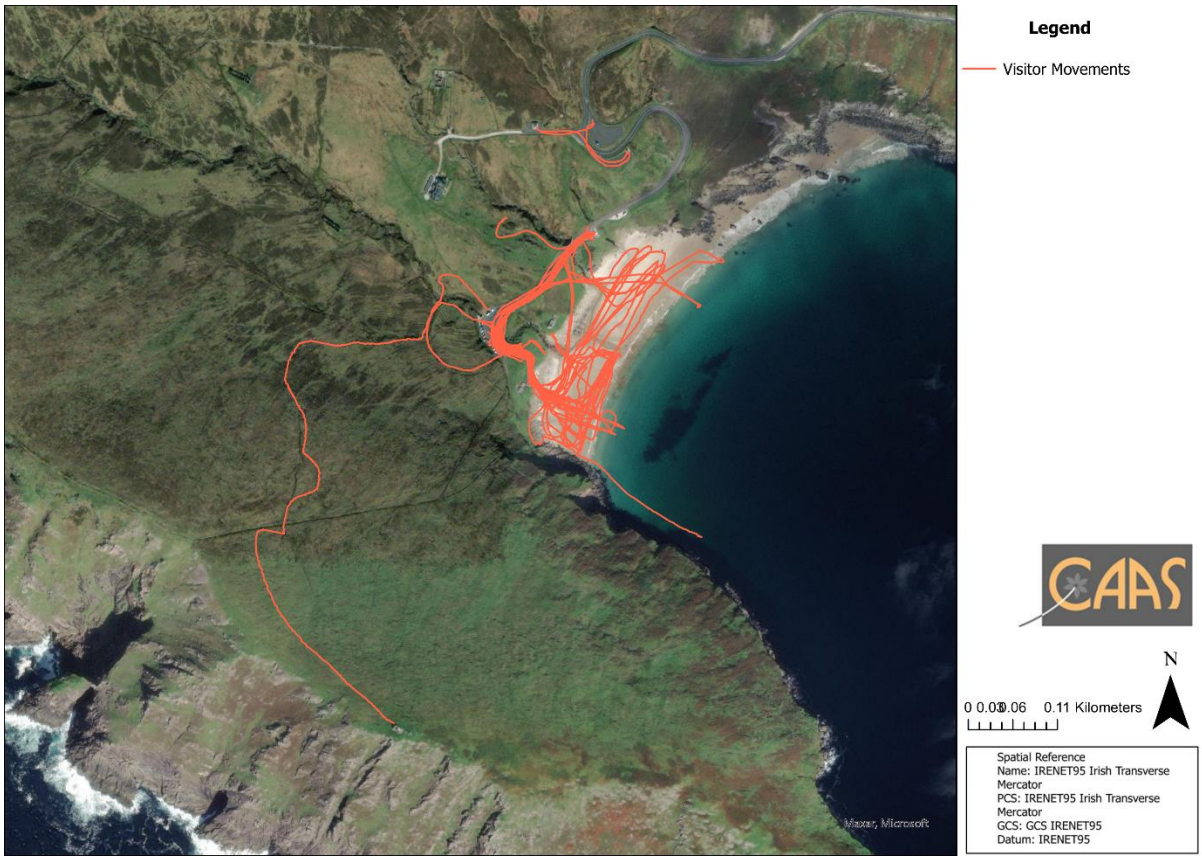


Figure 1.18 Visitor movement patterns at Keem Bay Achill

Of the 33 groups recorded on site 79% of them undertook activities other than walking, an increase from 49% in 2021. These activities (identified above) resulted in 11 impacts being observed on site during the survey, an increase from 3 in 2021. Thus, 32% of activities on site resulted in impacts on the environment a large increase from 8% in 2021. The impact severity levels varied with 82% of the impacts being low, with 33% in 2021, 18% of impacts being moderate, with 67% in 2021, and 0% of impacts being high severity. The impacts identified for the site were:

Impact Type	Count
Damage to natural features	6
Light desire line	2
Loosening of substrate	1
Temporary disturbance to wildlife	1
Trampling	1

1.6 Comparison with Previous Survey Results

The data obtained has provided an opportunity to compare significant changes results with previous years. Where this occurs, this will be noted in the relevant sections.

The 2022 Visitor Characterisation Survey in Keem Bay produced a number of changes from the 2021 Visitor Characterisation Survey. Noted changes include;

- An increase was noted between the number of impacts observed from 2022 when compared to 2021, despite a severe reduction in visitor numbers;
- An increase in percentage of activities done off of marked trails by visitors;
- A significant increase in percentage of activities done other than walking;
- Noted decrease in percentage of aquatic activities observed,
- Reduction of visitors during the 8-hour survey by 48% to 106 visitors over 33 groups with average dwell time reducing by 38%.

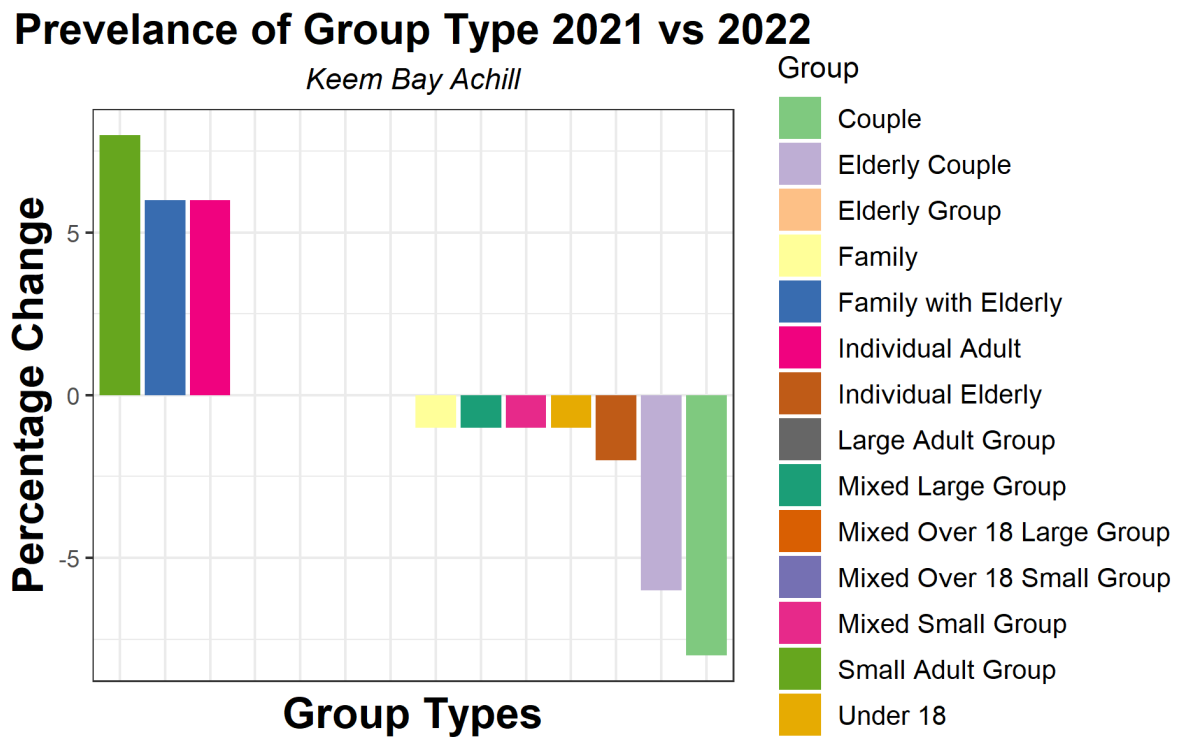


Figure 1.19 Percentage Change in groups of visitors that visited Keem Bay between 2021 and 2022

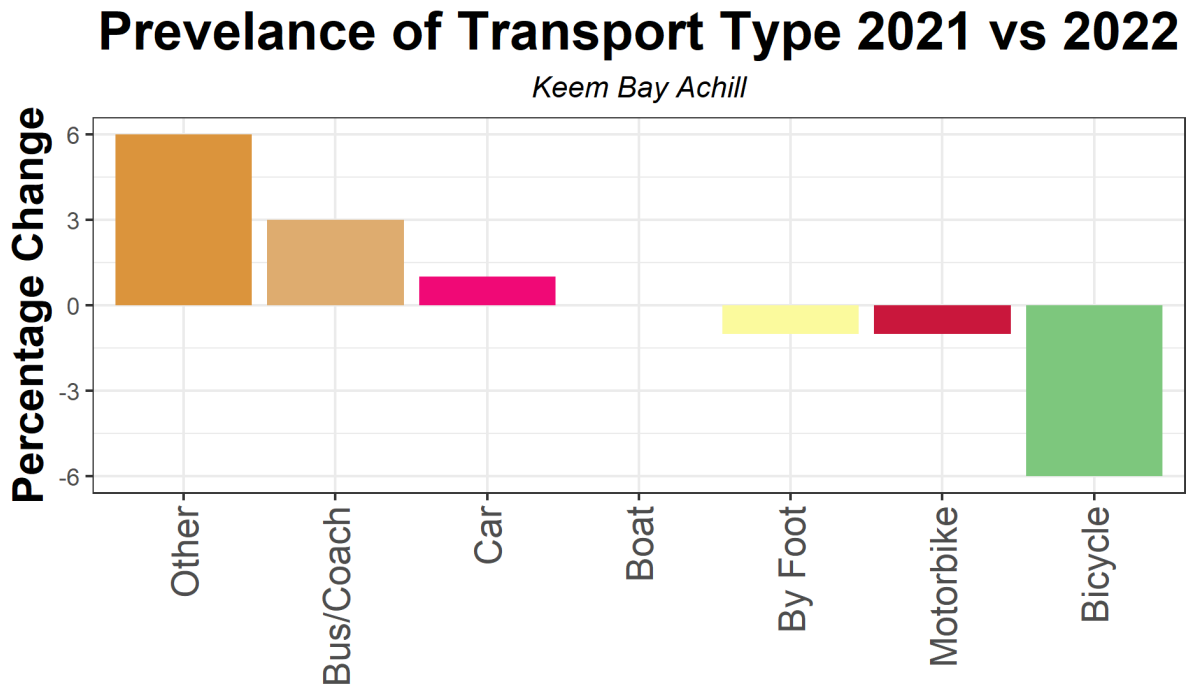


Figure 1.20 Percentage Change in mode of transport used to visit Keem Bay between 2021 and 2022

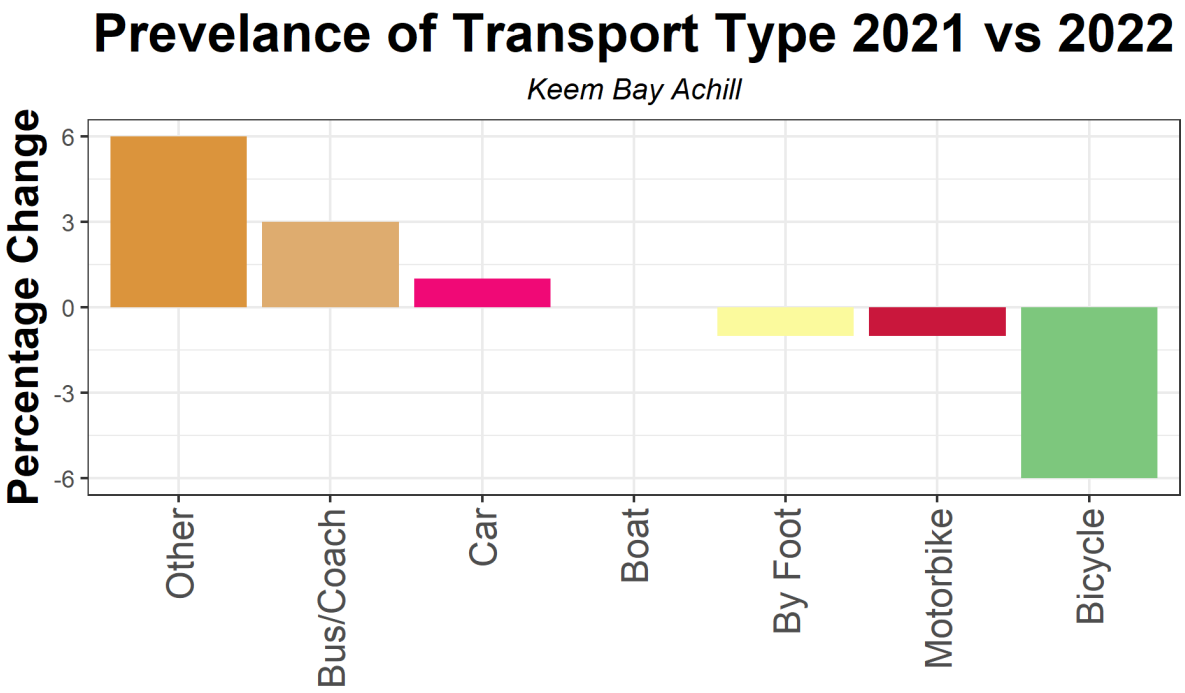


Figure 1.21 Percentage change in use of Interpretive Material at Keem Bay between 2021 and 2022

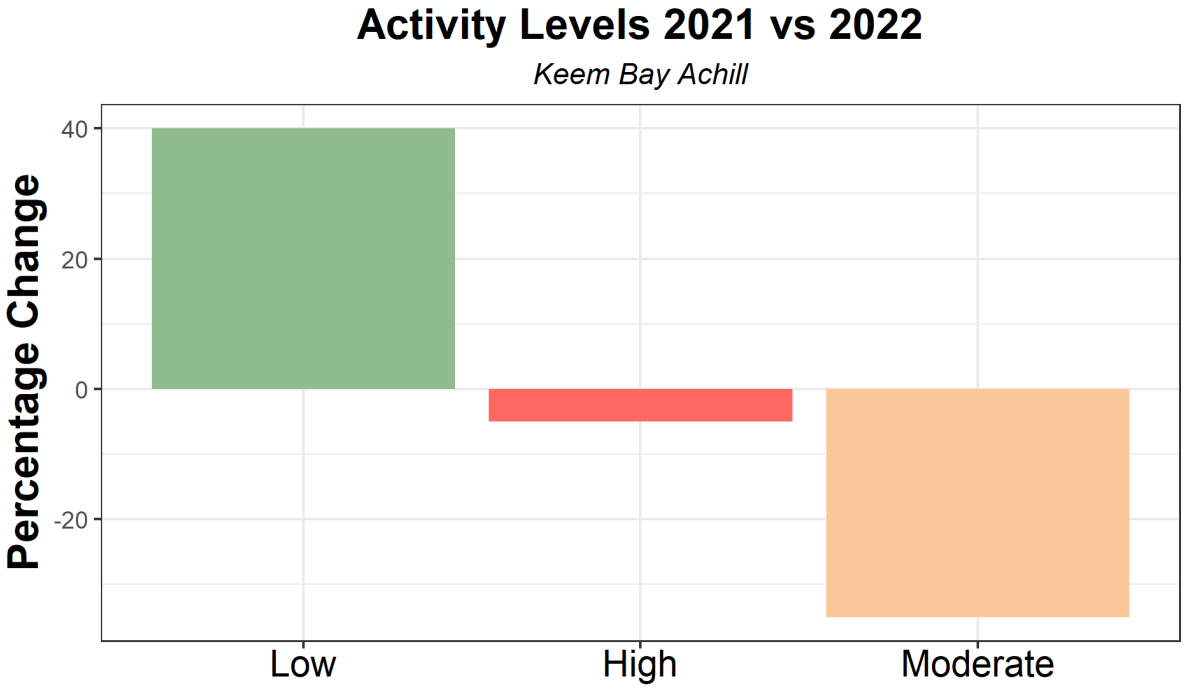


Figure 1.22 Percentage change in categories of Activity Levels Observed at Keem Bay between 2021 and 2022

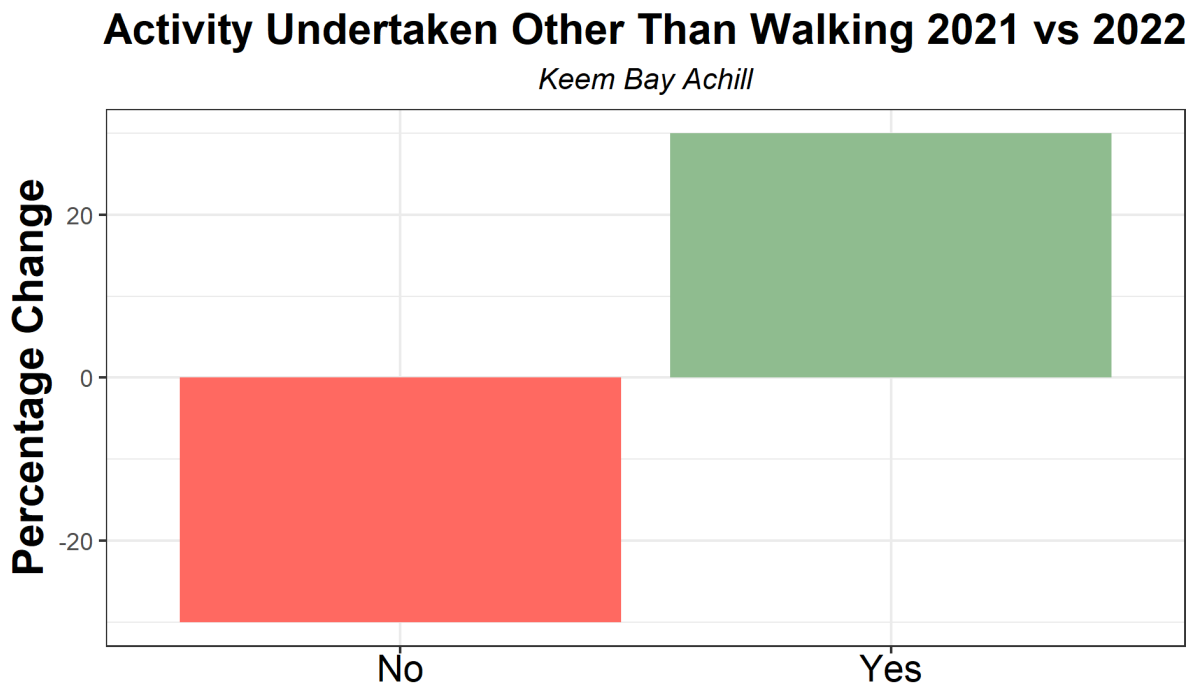


Figure 1.23 Percentage change in activities undertaken other than walking at Keem Bay between 2021 and 2022

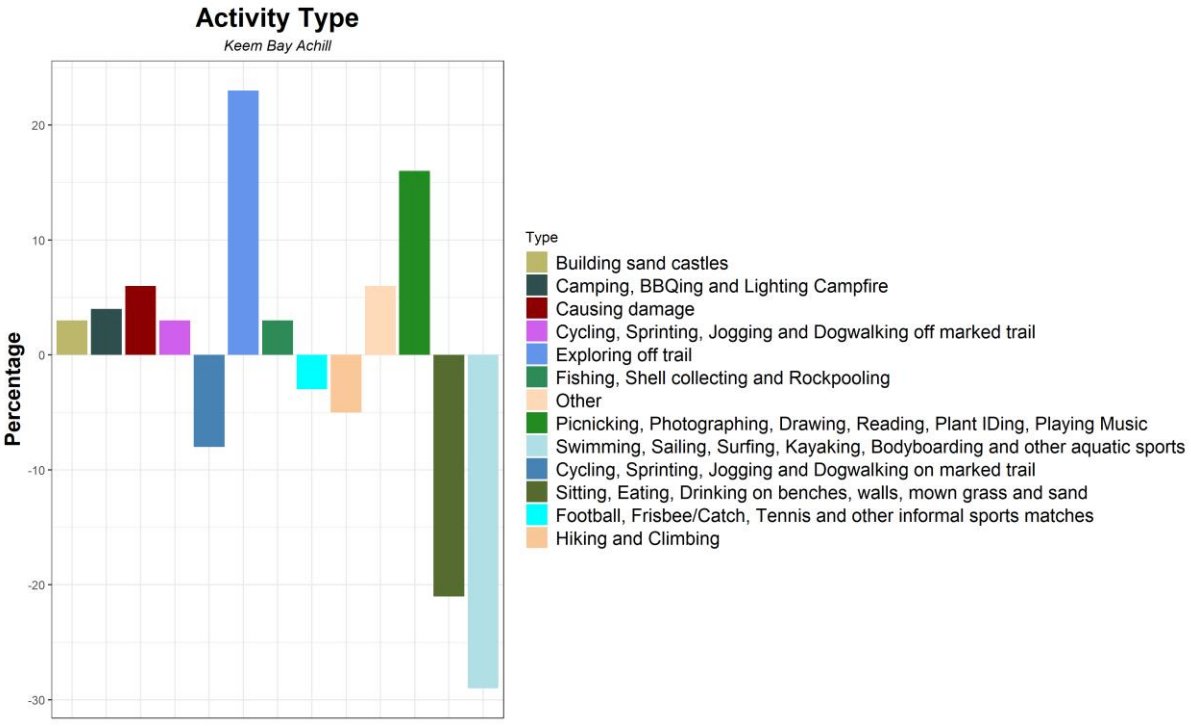


Figure 1.24 Percentage change in range of Visitor Activities Observed at Keem Bay between 2021 and 2022

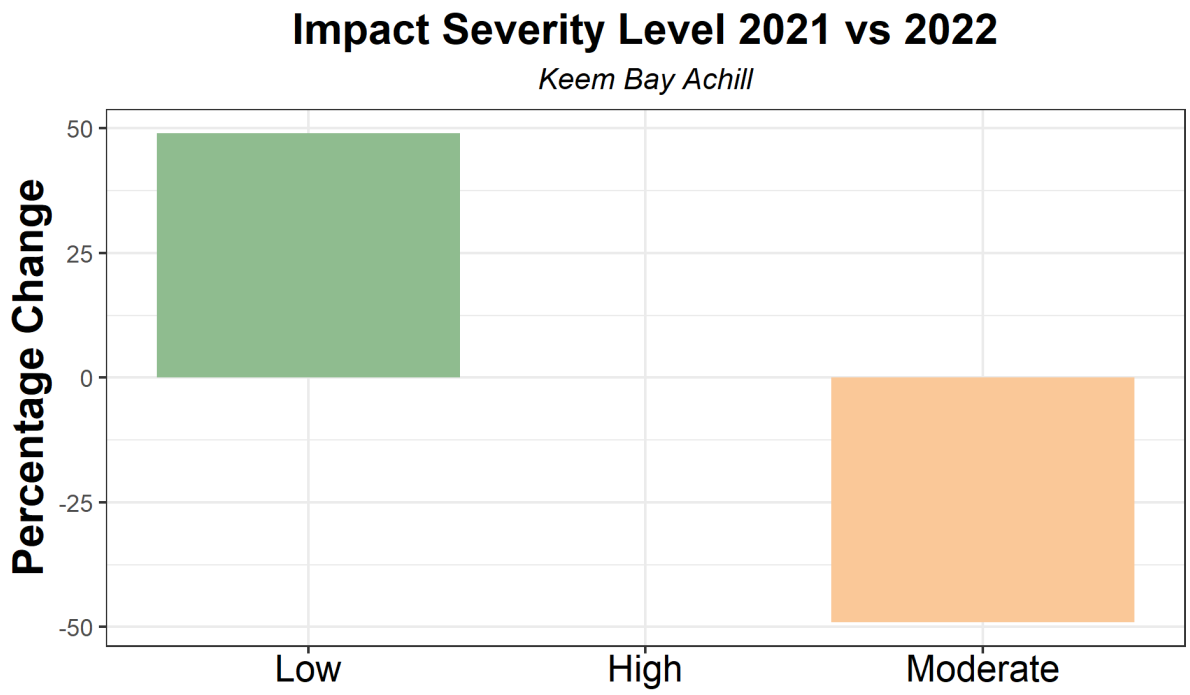


Figure 1.25 Percentage change in categories of Environmental Impact Levels Observed at Keem Bay as a result of Visitor Activities[7] between 2021 and 2022

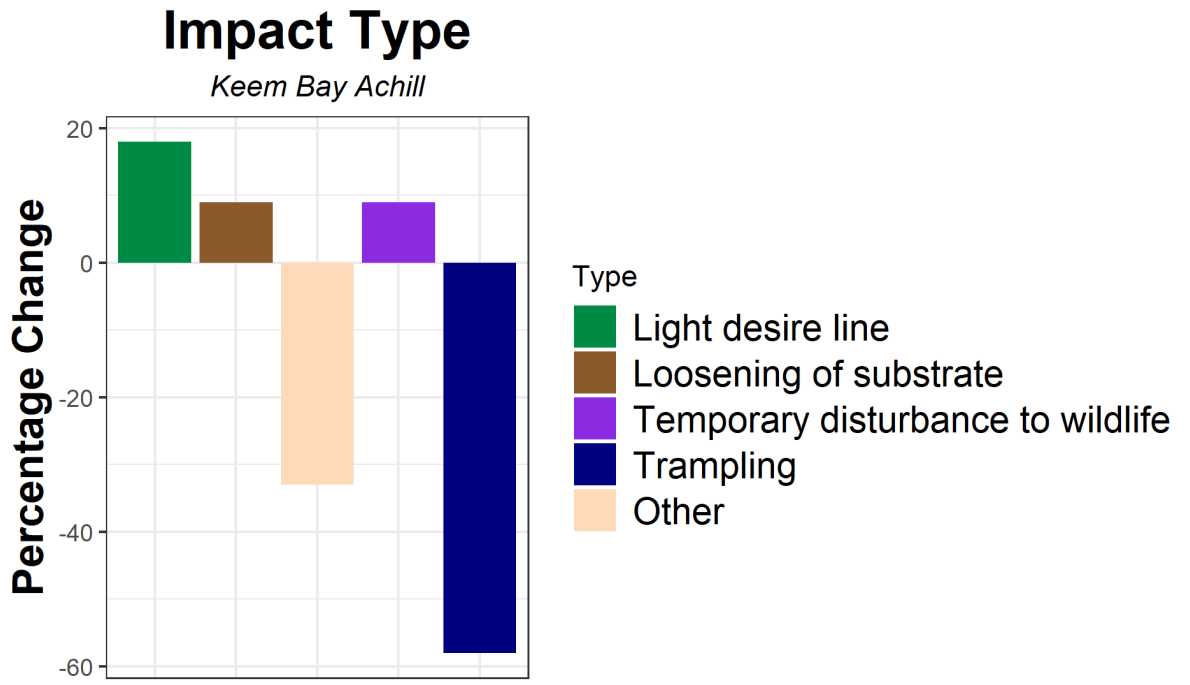


Figure 1.26 Percentage change in range of Environmental Impacts Observed at Keem Bay between 2021 and 2022

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

Table 1.4 Summary of changes with previous survey results

Survey	Notable Differences	Comment
Visitor Dwell Time	• Overall dwell time reduced by 38% • Visitor numbers decreased by 48%	Survey was conducted later in the season compared to 2021 which could lead to less visitors and thus, dwell time
Prevalence of Group Type	• 8% increase in small adult groups • 6% increase in individual adults • 8% decrease in couples and 6% decrease in elderly couples	Slight changes in percentage of visitor group types could be attributed to the 2022 survey taking place later in the season
Prevalence of Transport Type	• 6% decrease in bike	No significant changes observed
Read Available Signage	• Signage not read decreased by 22% • 2% decrease in signage read • Unknown increased by 24%	Significant decrease in percentage of visitors that did not read available signage. However, this can be attributed to a large increase in percentage of unknown if signage was read
Activity Levels	• High activity levels decreased by 5% • Low activity levels increased by 40% • Moderate activity levels decreased by 35%	Significant increase in percentage of low activity level activities observed
Activity Undertaken Other Than Walking	• 40% increase in activities other than walking • 40% decrease in just walking	Significant increase in percentage of activities other than walking observed
Activity Type	• 23% increase in exploring off trail • 29% decrease in swimming and other aquatic activities • 21% decrease in stationary activities such as sitting • 16% increase in activities such as picnicking • Jogging, cycling, and dog walking etc. on marked trails decreased by 8%	Significant decrease in percentage of aquatic related activities, this could be due to the survey taking place in August Noted increase in percentage of visitors exploring off trail as well as a decrease of activities on marked trails
Impact Severity Level	• No change in high impact level • Low impact level increased by 49% • Moderate impact level decreased by 49%	Large increase in percentage of low level impacts observed. This could be due to an increase in impacts observed on site
Impact Type	• 18% increase in light desire lines • 58% decrease in trampling • 9% increase in loosening of substrate • 9% increase in temporary disturbance to wildlife	The increase in percentage of light desire lines and loosening of substrate could be attributed to increase in percentage of off trail activities. However, there is also a noted significant decrease in percentage of trampling on site but this could possibly be due to a small number of impacts being recorded in the 2021 survey

1.7 Ecological Monitoring Results

1.7.1 Ecological Constraints

The habitats within 2km of Keem Bay Achill are sensitive to pollution, hydrological changes, overgrazing and land use management.

Table 1.5 Designated sites within 2km of Keem Bay Achill and relevant ecological receptors

Site Code	Site Name	Distance (km)	Site Type	Qualifying Feature
[001955]	Croaghaun/ Slievemore pNHA	0.00	pNHA	

Site Code	Site Name	Distance (km)	Site Type	Qualifying Feature
[001955]	Croaghaun/ Slievemore SAC	0.00	SAC	Northern Atlantic wet heaths with Erica tetralix [4010], Blanket bogs * if active bog [7130], European dry heaths [4030], Alpine and Boreal heaths [4060], Siliceous scree of the montane to snow levels *(Androsacetalia alpinae* and *Galeopsietalia ladani)* [8110]
[002268]	Achill Head SAC	0.05	SAC	Large shallow inlets and bays [1160], Mudflats and sandflats not covered by seawater at low tide [1140], Reefs [1170]

1.7.2 Habitat Descriptions

The habitats at Keem Bay are shingle shores – but the surrounding habitats along the upland areas are wet heath (Fossitt Code HH3) which align with the Annex I habitat for which the SAC is designated (Northern Atlantic wet heaths with Erica tetralix [4010]). The cliff face itself is a sedimentary cliff edge.

Although fewer visitors were observed departing from the lower altitudes and most of the movements were recorded at the beach itself. It is evident through the path condition assessment that the trails through the heathland are eroding with 100% exposed substrate in some instances.

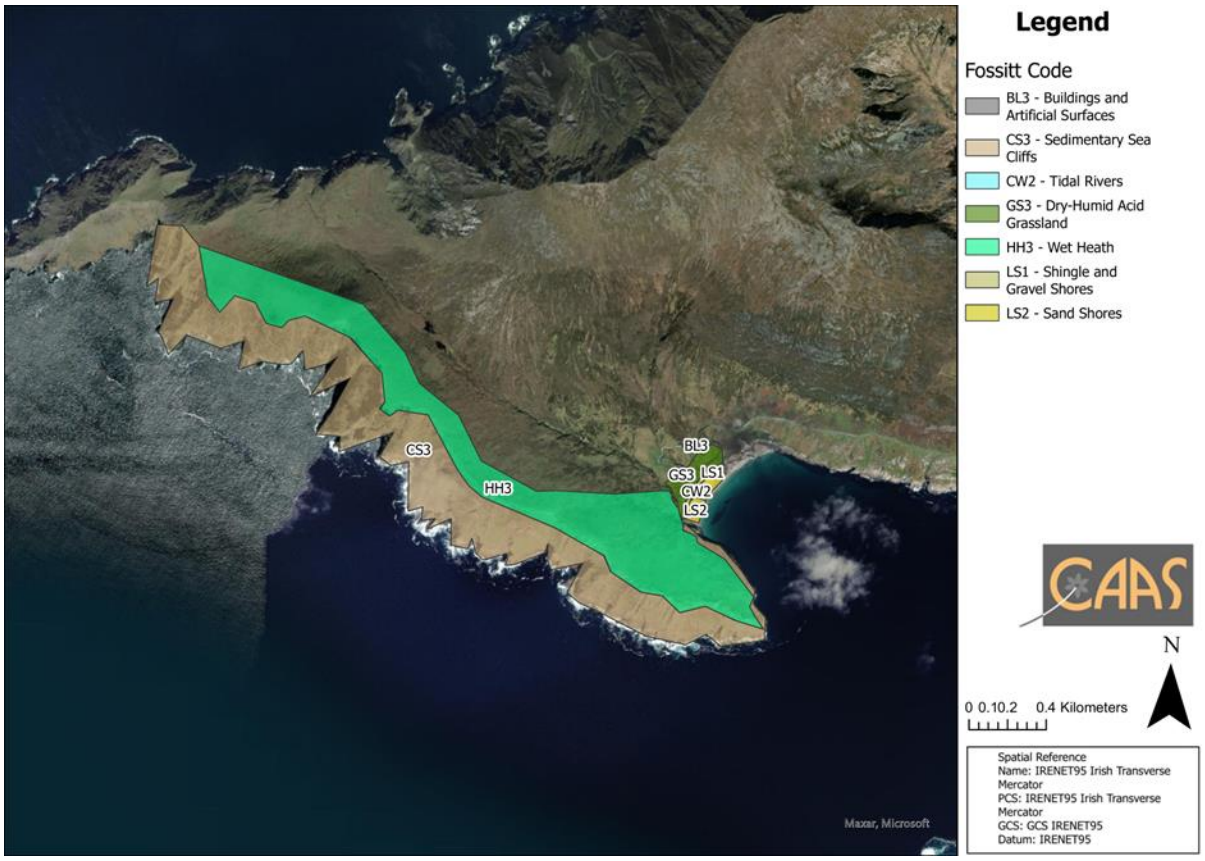


Figure 1.27 Habitats present at Keem Bay Achill

1.7.3 Condition Assessment

Habitat condition assessments are an integral part of the National Tourism Monitoring Programme. They will allow an assessment of how habitat degradation due to human disturbance may relate to visitor monitoring data gathered at each of the 19 Failte Ireland sites for the duration of the programme.

Each habitat condition assessment will follow a rating scale, that has been designed specifically for this monitoring programme as a standardised, repeatable measurement for assessing habitat condition across all Failte Ireland sites (details on the full methodology are supplied in Appendix II of this report). In order to adequately capture possible changes to habitat condition at each site in relation to tourism activities, the habitat condition assessments will be conducted every second year of the 5-year

monitoring programme. Carrying out this condition assessment every second year, creates a sufficient timescale for changes in site condition in relation to visitor movements and activities on site to become apparent, and therefore to be reflected in the resultant data.

The initial habitat condition assessments that will form the baseline for the programme's condition assessments for each of the 19 sites, were carried out in the inaugural year of this programme in 2021. The next year of habitat condition assessment will be conducted in 2023. Each assessments results will be detailed within their relevant year's interim report, with the overall analysis of trends in habitat condition in relation to visitor movements for every site reported in the final year of the monitoring programme in 2025.

1.7.4 NBDC Records of Mammals

The NBDC data shows that there are not many terrestrial mammals in the area and the majority of observations were of marine mammals, this is due to both the location of Keem Bay Achill and the habitats available. The only two terrestrial mammals recorded were badgers and otters, with grey seals and bottle-nosed dolphins being the most observed marine species.

Table 1.6 List of mammals that have been recorded at NBDC Hectad[8] F50

Group	Common name	Scientific name	Number Recorded
Marine mammal	Bottle-nosed Dolphin	*Tursiops truncatus*	16
Marine mammal	Common Dolphin	*Delphinus delphis*	8
Marine mammal	Common Porpoise	*Phocoena phocoena*	6
Marine mammal	Common Seal	*Phoca vitulina*	1
Marine mammal	Grey Seal	*Halichoerus grypus*	45
Marine mammal	Minke Whale	*Balaenoptera acutorostrata*	2
Marine mammal	Risso's Dolphin	*Grampus griseus*	1
Marine mammal	Striped Dolphin	*Stenella coeruleoalba*	3
Terrestrial mammal	Eurasian Badger	*Meles meles*	1
Terrestrial mammal	European Otter	*Lutra lutra*	3

1.7.5 NBDC Records of Wintering Birds

The shallow bay habitat on site and coastal areas that surround Keem Bay provides suitable habitat for winter waders, and this is reflected in the NBDC data as shown below in Table 1.7, with fulmar and various species of gulls being recorded in high numbers.

Table 1.7 List of wintering birds that have been recorded at NBDC Hectad[9] F50

Group	Common name	Scientific name	Number Recorded
Bird	Anthus spinoletta/petrosus agg.	*Anthus spinoletta/petrosus agg.*	1
Bird	Arctic Skua	*Stercorarius parasiticus*	1
Bird	Barn Swallow	*Hirundo rustica*	3
Bird	Black-billed Magpie	*Pica pica*	1
Bird	Black-legged Kittiwake	*Rissa tridactyla*	8
Bird	Black Guillemot	*Cepphus grylle*	5
Bird	Blue Tit	*Cyanistes caeruleus*	2
Bird	Chaffinch	*Fringilla coelebs*	1
Bird	Common Blackbird	*Turdus merula*	6
Bird	Common Cuckoo	*Cuculus canorus*	1
Bird	Common Guillemot	*Uria aalge*	2
Bird	Common Kestrel	*Falco tinnunculus*	9
Bird	Common Linnet	*Carduelis cannabina*	2
Bird	Common Raven	*Corvus corax*	17
Bird	Common Sandpiper	*Actitis hypoleucos*	2
Bird	Common Snipe	*Gallinago gallinago*	8
Bird	Common Starling	*Sturnus vulgaris*	7
Bird	Common Wood Pigeon	*Columba palumbus*	2
Bird	Corn Crake	*Crex crex*	1
Bird	Eurasian Collared Dove	*Streptopelia decaocto*	1
Bird	Eurasian Curlew	*Numenius arquata*	2

[8] 10km^2 grid
[9] 10km^2 grid

Group	Common name	Scientific name	Number Recorded
Bird	Eurasian Oystercatcher	*Haematopus ostralegus*	8
Bird	Eurasian Siskin	*Carduelis spinus*	2
Bird	Eurasian Sparrowhawk	*Accipiter nisus*	2
Bird	Eurasian Woodcock	*Scolopax rusticola*	4
Bird	European Robin	*Erithacus rubecula*	6
Bird	European Shag	*Phalacrocorax aristotelis*	10
Bird	European Storm-petrel	*Hydrobates pelagicus*	2
Bird	Glaucous Gull	*Larus hyperboreus*	3
Bird	Great Black-backed Gull	*Larus marinus*	14
Bird	Great Cormorant	*Phalacrocorax carbo*	3
Bird	Great Northern Diver	*Gavia immer*	3
Bird	Greater White-fronted Goose	*Anser albifrons*	2
Bird	Greenland White-fronted Goose	*Anser albifrons subsp. flavirostris*	2
Bird	Grey Wagtail	*Motacilla cinerea*	2
Bird	Hedge Accentor	*Prunella modularis*	1
Bird	Herring Gull	*Larus argentatus*	17
Bird	Hooded Crow	*Corvus cornix*	14
Bird	House Martin	*Delichon urbicum*	1
Bird	House Sparrow	*Passer domesticus*	3
Bird	Lesser Black-backed Gull	*Larus fuscus*	8
Bird	Little Grebe	*Tachybaptus ruficollis*	2
Bird	Long-tailed Duck	*Clangula hyemalis*	2
Bird	Mallard	*Anas platyrhynchos*	4
Bird	Manx Shearwater	*Puffinus puffinus*	18
Bird	Meadow Pipit	*Anthus pratensis*	20
Bird	Mew Gull	*Larus canus*	3
Bird	Northern Fulmar	*Fulmarus glacialis*	47
Bird	Northern Gannet	*Morus bassanus*	13
Bird	Northern Wheatear	*Oenanthe oenanthe*	16
Bird	Peregrine Falcon	*Falco peregrinus*	4
Bird	Pied Wagtail	*Motacilla alba subsp. yarrellii*	1
Bird	Purple Sandpiper	*Calidris maritima*	1
Bird	Razorbill	*Alca torda*	4
Bird	Red-billed Chough	*Pyrrhocorax pyrrhocorax*	13
Bird	Redwing	*Turdus iliacus*	1
Bird	Reed Bunting	*Emberiza schoeniclus*	2
Bird	Rock Pigeon	*Columba livia*	4
Bird	Rock Pipit	*Anthus petrosus*	7
Bird	Ruddy Turnstone	*Arenaria interpres*	3
Bird	Sedge Warbler	*Acrocephalus schoenobaenus*	2
Bird	Sky Lark	*Alauda arvensis*	10
Bird	Song Thrush	*Turdus philomelos*	5
Bird	Sooty Shearwater	*Puffinus griseus*	1
Bird	Stonechat	*Saxicola torquata*	11
Bird	Twite	*Carduelis flavirostris*	4
Bird	White-throated Dipper	*Cinclus cinclus*	5
Bird	White Wagtail	*Motacilla alba*	6
Bird	Winter Wren	*Troglodytes troglodytes*	13

1.8 Recommendations

As with the 2021 survey, camping and BBQing remain an issue present at Keem Bay Achill. The designation of a BBQ area on site would help to reduce potential impacts foreseen by BBQing as these activities on site would be conducted in a more controlled environment and would facilitate social campfire activities currently performed on site.

Additional signage on site is recommended as there is a current lack of educational signage on site that would help to ensure visitors understand the importance of the habitats on site as well as the need to stick to marked trails to help prevent impacts which have been observed.

Path and trail restoration options should be explored to allow the recovery of damaged trail areas on site. Improvements and restoration of trails and pathways on site would alleviate and reduce impacts that have been observed. However, this process should be undertaken with regard to the Habitats Directive. Where necessary this may require the NPWS to incorporate management actions into the management plan for the SAC is a satisfactory AA process cannot be completed for any such works.

In addition to restoring damaged trails and pathways, as was recommended in 2021, it is recommended that a warden be present during the peak season. The appointed warden could manage the trails on site, minimising impacts and ensure that there is no littering or potential fire management issues as a result of the camping on site.

Appendix I

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

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

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

Appendix II

Habitat Condition Assessment Methodology

A rating scale has been designed for this monitoring programme as a standardised, repeatable measurement for assessing habitat condition across all sites[10]. For the purposes of this monitoring programme, habitat condition is assessed at every site by the surveyor examining four core criteria:

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

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

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

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

Table II-1 Habitat rating scale and condition assessment

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

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