

Visitor Management Best Practice Case Study

Aillwee Cave



GeoparkLIFE:
Tourism for Conservation

INTRODUCTION

Pressures on heritage attractions are increased through visitor promotion in tourism destinations.

Changes occur in visitor numbers, popularity of sites and pressures on attractions over time.

Good management must be able to recognise and measure these changes and adapt appropriately to implement effective conservation practice while ensuring visitor satisfaction.

Only through understanding all the pressures that impact on an attraction can effective management actions be designed and implemented.

Initial management decisions are often made with a degree of uncertainty as to the future impact of the action proposed. Adaptive management is a structured process which can reduce this uncertainty over time through continuous monitoring, reviewing of the changes and adaptation of actions where required. Through the implementation of this process the management team become very familiar with all the integrated aspects of the site and can adapt their actions quickly to address negative changes.

The Burren & Cliffs of Moher GeoparkLIFE programme developed a set of guides, toolkits and case studies to facilitate tourism destination managers to reconcile tourism development with the conservation of the natural and cultural heritage. Included in the toolkits are a Heritage Site Visitor Management Plan Template, a Heritage Site Monitoring app and portal website and an on-line Code of Practice for tourism providers. <http://www.burrengeopark.ie/geopark-life/guides-and-toolkits/>

The Heritage Site Visitor Management toolkit development was based on practical application at seven demonstration sites within the Burren region. This document has been compiled to illustrate how one of those demonstration sites, Aillwee Cave, is utilising a natural heritage attraction to provide a successful Visitor Centre while operating at a best conservation practice level. The format used in this document is based on the GeoparkLIFE Heritage Site Visitor Management Template.

Zena Hctor

GeoparkLIFE Sites and Monuments Co-Ordinator

May 2018.

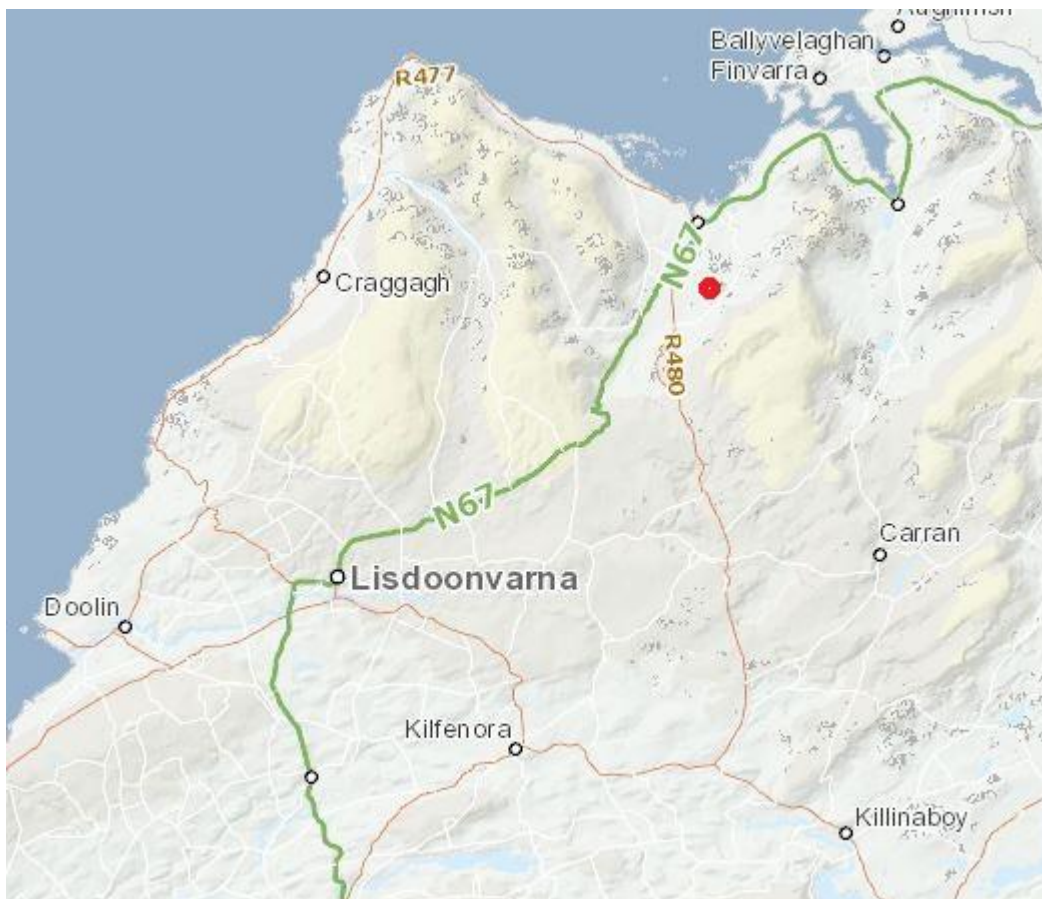
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SECTION ONE: SITE IDENTIFICATION

1.1. Name and Location

Site Name	Aillwee Cave
Townland	Ballycahill
ITM E	523376
ITM N	704896
OS Discovery Series Sheet No.	51
OS 6 - inch Series Sheet No.	CL009

Site location map.



Map 1: Aillwee Cave location marked in red

SECTION TWO: SITE SIGNIFICANCE

2.1. Site type and features

Aillwee Cave was first opened to the public as a visitor attraction in 1976. The access building leading into the cave was designed by Andrzej and Danuta Wejchert and was awarded the EC Europa Nostra prize. The entrance contains tourist information, a craft shop, a tea room, restaurant and rest rooms. At present, (2018) roughly 300 metres (980 feet) of cave passage is open to the public, one third of the total length of the cave. The tours end at a point called the Highway and visitors exit the cave via a 250-metre (820 feet) man-made tunnel.

The cave has a long complex history. Radioisotope data suggest it is more than one million years old and was already formed before the last major ice advance. It was formed by rainwater dissolving the limestone as it flowed from the land surface through vertical fissures called 'grikes' over long periods of time. Water continues to flow in parts of the cave although the main passage is now inactive and dry.

The cave system consists of over a kilometre of passages leading into the heart of Aillwee Hill. As is typical of most Burren caves, it originally contained a large stream, but is now heavily backfilled with glacial infill. The features visible in the cave today include an underground river, a waterfall and a number of large stalactites and stalagmites. The general direction of the cave is east to west but there is a turn due south some 600 metres (2,000 ft) into the cave.

The formations visible to the visitor on the show cave tour are rarely more than 8,000 years old but calcite samples in the recesses of the cave have been dated to over 350,000 years old.

The bones of bears found in Aillwee Cave and the shallow pits discovered in the passage suggest bears may have used the cave for hibernation.

The limestone terraces on the hill behind the cave contain evidence of fossil soils that are over 300 million years old.

The bases of the rocky terraces on Aillwee Hill mark the position of thin clay or shale layers in the limestone. These shale layers are thought to mark periods of exposure when sea-levels were lowered due to an ice age 330 million years ago. As sea-levels dropped the seafloor was exposed to weathering and soil formation. The subsequent sea-level rise covered these layers with limestone again. These clay layers are impermeable barriers to water and springs often emerge where they occur.

In addition to the cave itself, the Burren Birds of Prey Centre was established as a visitor attraction at the Aillwee complex in 2008 with the objective of educating and entertaining visitors with dynamic flying displays set against the dramatic Burren Landscape. The mission of the Centre is to aid the conservation of Birds of Prey through visitor awareness and education, whilst actively fund raising for Raptor conservation monitoring efforts within Ireland. Eagles, Falcons, Hawks, and Owls from all over the world are housed at the centre and can be viewed by the public.

Also within the grounds of the complex is a Farm Shop which produces the award winning Burren Gold cheeses and sells local food products and crafts.

The natural hazel woodland of the Burren covers much of the site and within this woodland a bushcraft centre and hawk walks provide a further attraction for visitors.

2.2. Specific features of Visitor Interest

The Aillwee Cave complex attractions include

- 30 minute guided tours of the cave;
- the Birds of Prey Centre with regular flight demonstrations;
- hawk walks through the woodland;
- bushcraft activities in the woods
- cheese making demonstrations in the Farm shop
- access to a mountain walk to the rear of the cave through the karst landscape
- seasonal events include Santa in the Cave at Christmas and Halloween events.

2.3. Regional Context of the Site

The Aillwee Cave complex is located just off the R480 route which runs through the centre of the Burren and has an array of prominent attractions and natural and cultural heritage sites along its length. The route is used by coach tours and individual travellers, mainly travelling by car. In addition to Aillwee Cave, visitor attractions along this route include the archaeological sites of An Rath, Cahermore, and Carran Church (all of which are also GeoparkLIFE demonstrations sites) and Caherconnell visitor centre, which consists of a medieval stone fort and a demonstration sheep farm.

Aillwee Cave is a typical example of many caves found throughout the karst limestone landscape of the Burren. Originally formed as a result of an underground river cutting its way through the limestone after the retreat of the last Ice Age, it later became dry and a hibernation refuge for brown bears.

2.4. Associated Placenames and their meanings

The placename Aillwee is derived from the Irish 'Aill Bhuí' which translates as 'Yellow Cliff'.

The Aillwee Cave Visitor complex is located within the townland of Ballycahill, which translates as the townland of the Cahills.

2.5. Social and Cultural History of the site

Aillwee cave was discovered in 1944, when a local farmer, Jack McGann, followed his dog into the cave as he chased a rabbit. Jack explored the cave with a candle as far as he dared. It was not until 1973 that a team of cavers from Bristol University explored the system as far as a boulder choke. Soon after the cave system began to be developed for visitor access by the landowners.

The boulder choke was removed in 1977 and a further 1,034 metres of cave was discovered. The "Marine Blast" tunnel was completed in 1992 to allow a circular trip through the system.

Aillwee Cave complex is now a successful Burren and National visitor attraction which makes a very positive local economic and social impact through annual and seasonal employment, purchasing local produce and contributing to local social developments.

2.6. Reports/Research

CAAS Ltd. 2015 *'Pilot Visitor Observation Studies of Environmental Impacts at the Burren & Cliffs of Moher Geopark, Co. Clare'*. GeoparkLIFE project, Burren and Cliffs of Moher Geopark, Clare County Council.

Drew, D.P.; Cohen (1980). *"Geomorphology and Sediments of Aillwee Cave, Co. Clare, Ireland"* (PDF). Proceedings of the University of Bristol Speleological Society. **15** (3): 227–240. Retrieved 3 January 2014.

Feehan, John (2001), *"The Burren Underworld"*, in O'Connell, J.W.; Korff, Anne, *The Book of the Burren*, Tir Eolas, pp. 24–30

Frost, James, 1893 *'The History and Topography of County Clare'*

Hector, Z. (2015) *'Aillwee Cave Site Assessment Report'* GeoparkLIFE, Burren and Cliffs of Moher Geopark, Clare County Council.

Lewis, S. 1837 *'County Clare: A History and Topography'*

O'Donovan J., Curry, E. 1839 *'Ordnance Survey Letters'*

Parkes, M., McAteer, C. & Engering S. 2005. *The Geological Heritage of Clare. An audit of County Geological Sites in Clare*. Geological Survey of Ireland. Unpublished Report.

Saunders, J. 2015 *'Buses in the Burren 2014 – A study of the Impacts and Issues'* Burren & Cliffs of Moher Geopark

"An Aill Bhui". Bunachar Logainmneacha na hÉireann. An Roinn Ealaíon, Oidhreacht agus Gaeltachta. Retrieved 3 January 2014.

<https://www.aillweecave.ie/>

SECTION THREE: BASELINE SITE CONDITION ASSESSMENT

3.1. Approach to the Site

Describe the approach roads to the site

A branch road off the R480 leads to the entrance gateway to the Aillwee Cave Visitor Complex. This road is in very good condition and has a number of pull-in areas to allow two cars to pass. From the entrance gateway to the site, where the payment kiosk is located, the road ascends gently to the Birds of Prey Centre and Farm Shop. From this level to the car park in front of the cave entrance building there is a very sharp ascent. All roads are in good condition and well signed.

Is there directional road signage to the site?

Yes ☒ No ☐

If yes, enter the ITM co-ordinates for its location

The Aillwee Cave Visitor Centre is comprehensively signed on all approach roads.

What is the condition of the signage?

Good

Timescale for action required

None required

Is there a roadside site name sign present?

Yes ☒ No ☐

If yes, enter the ITM co-ordinates for its location

522955 705219

What is the condition of the signage?

Good

Is the sign damaged?

Yes ☐ No ☒

If yes, describe the damage and its cause

Timescale for action required

None required

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Are there parking facilities available at the site?

Yes ☒ No ☐

If yes, is it

Official ☒ Unauthorised ☐

How many spaces are currently available?

Two regular parking areas are provided on site. One outside the Birds of Prey centre and a larger one at the Cave entrance building with a separate area for coach parking. There are also overflow areas located along the access roadway to the cave building which are put into use during the busy periods. There is adequate parking available for both cars and coaches.

How many spaces are reserved for disabled visitors?

20

Enter the number of spaces available for

cave building accommodates 10 coaches. Area outside birds of Prey centre spaces for 4 coaches.

Coaches Separate coach parking area at

Cars 80 outside cave building and 35 at Birds of Prey centre

Push bicycles A secure bike and locker park is provided.

Are the current parking facilities adequate?

Yes ☒ No ☐

Additional Comments re Approach to Site

The approach to the site is well signed and easily accessible. Entrance payment is taken at a kiosk at the entrance gate and information is provided by the gate attendant with regard to the layout of the site and its attractions. A map of the site is provided to all visitors. There is a moderate incline along the access road to the first car park area at the Birds of Prey Centre and the Farm Shop. From here the road rises steeply through a number of z-shaped bends to access the higher car park in front of the Cave buildings.

3.2. Site Entry

Select the site entrance type

Gate	Stile	Gap in wall	Other
<input checked="" type="checkbox"/>			If other, please specify

Is there an access Path?

Yes ☒ No ☐

If yes, specify

the surface covering

Gravel

the incline

Steep

Are there steps present?

Yes ☐ No ☒

If yes, specify how many

[Click here to enter text.](#)

Are there resting points along the path?

Yes ☒ No ☐

If yes, specify the type and number

[Click here to enter text.](#)

Are there areas of erosion along the path/trail?

Yes ☐ No ☒

3.3. Way Finding

3.3.1. Site Signage

Specify the type of **on-site signage** present

Directional	Interpretive	Health & Safety	Fógra	Private Property	Environmental Information	Other
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	If other, please specify

[Comments re on-site signage](#)

There is a comprehensive and well maintained signage system installed at the site directing visitors to the various attractions and providing interpretation and environmental information. At the gate entry point to the complex, information is provided by the gate attendant with regard to the layout of the site and its attractions and a map of the site is provided to all visitors.

3.3.2. Restrictions to Visitor Access

The Aillwee Cave complex is located on a steep hill side and the access roads within the complex are steeply inclined. This can cause difficulties for some people if they desire to walk around to each of the attractions. However to address this issue a road train has been introduced to ferry people around the site should they wish to avail of it. This is particularly aimed at the less able bodied.

All written communications (print material, signs and website) produced and installed at Aillwee Cave are reviewed on an annual basis to ensure they observe the principles of Universal Access and are easily understood by all groups.

By June each year, when all summer staff have been recruited, Universal Access training is delivered to all staff members.

All buildings are wheelchair accessible.

3.3.3. On Site Visitor Facilities

Guides	Site Warden	Toilets	Coffee Shop	Viewing Platform	Other
✓	✓	✓	✓	✓	If other, please specify

Attractions at the site which are open to visitors on a year round basis are

- 30 minute guided tours of the cave;
- the Birds of Prey Centre with regular flight demonstrations;
- hawk walks through the woodland;
- bushcraft activities in the woods
- cheese making demonstrations in the Farm shop and
- access to a mountain walk to the rear of the cave through the karst landscape.
- Seasonal events include Santa in the Cave at Christmas and Halloween events.

Guided tours are provided of the cave at 30 minute intervals.

At the Birds of Prey Centre information boards provide details of the types of birds and their habitats which are on view. The flying displays are fully narrated. Staff provide educational talks on site and occasionally in local schools on Raptors, their biology, conservation and the ancient art of Falconry.

A hour long 'Hawk Walk' through hazel woodland and across Burren limestone pavement, is guided and instructed by experienced Falconers.

Bushcraft workshops are provided for children throughout the summer months.

3.4. Structural Condition

The cave system at Aillwee is an important geological and ecological resource. A large number of visitors access the cave each year and this could have adverse effects if not controlled and managed correctly. The management team at the cave are acutely aware of the sensitivities of the cave resource and carry out careful management monitoring to maintain its integrity. Actions include

- regular monitoring of the cave humidity and its bat population;
- regular inspections of the condition of the paths and rock features of the cave.

In recent years management have reduced the numbers of visitors entering the cave during each tour from 30/35 to 25 in order to protect the cave based on results of the monitoring programme. This action was undertaken to protect the humidity of the cave and due to customer feedback that it was too noisy and the guides were hard to hear.

Visitor's toilets are provided in the Cave building and in the Birds of Prey Centre. A licensed reed system treatment plant is maintained on the site and it is checked on a regular basis by the Environment Section of Clare County Council. An onsite Waste Management and Composting Systems is operated to reduce all waste produced on the site. All staff members operate under the 'Leave No Trace' policy and request visitors to do the same.

The whole complex is operated under a strict Environmental Policy and Action Plan (Section 5)

3.5. Visitor Numbers

Visitor numbers are recorded on a regular basis at Aillwee Cave by the management team. In 2014 the visitor numbers recorded at Aillwee Cave Visitor Centre was 110,000 people. Numbers have doubled since the 1990s (pers. Comm. Nuala Mulqueeney Site Manager)

3.5.1. Bus Survey

As part of the GeoparkLIFE 'Buses in the Burren 2014 – A study of the Impacts and Issues' (Saunders, J. 2015), the access routes and direction of travel of buses in the Burren was determined for July 17, 2014 by undertaking a driver/guide survey at the Cliffs of Moher and combining the results with data from a Clare County Council Road Traffic Census carried out on the same day. The results showed that 48 buses travelled along the R480 on this day (10 public day trips, 38 private tours). It was estimated that 15,000+ visitors were brought to the Aillwee Cave and Birds of Prey Centre by coach in 2014.

<http://www.burrengeopark.ie/wp-content/uploads/2015/03/Burren-Coach-Tourism-Study-Final-Report.pdf>

3.5.2. Footfall Counters

Through the GeoparkLIFE initiative a footfall counter was installed at the entrance to the Mountain Trail above the cave building on September 11, 2014 to measure visitor numbers and times of visit onto the karst landscape above the cave building. The following numbers were recorded between September 9, 2014 and September 2017:

	Year			
Month	2014	2015	2016	2017
January		167	170	306
February		324	329	260
March		558	1304	600
April		1240	871	1214
May		783	950	753
June		1003	1053	1002
July		2063	1925	1302
August		2514	2204	1571
September	542	787	649	69
October	531	872	695	
November	304	199	494	
December	174	347	473	
	1551	10856	11117	7077

Table 1: Data recorded by GeoparkLIFE footfall counter September 2014 – September 2017

These figures indicate that on an annual basis between 10,000 and 11,000 visitors access this trail which is approximately 10% of all visitors to the complex.

3.5. Visitor Attitudes

A Visitor Survey was conducted at Aillwee Cave between 5th September and 11th October 2014 as part of a wider survey of the GeoparkLIFE demonstration sites by Millward Brown Ltd. 84 people were interviewed. The purpose of this survey was to record visitors' attitudes to the infrastructure at the sites and to the Burren. The results indicate:

- 94% of visitors interviewed gave a rating of between 8-10 for signposting to the site (1 being poor and 10 high):
- 96% rated physical entry between 8 and 10
- 100% rated parking facilities between 8 and 10
- 64% arrived by car to the site and 27% by coach

- 78% noticed the information; 65% read them entirely and 28% partially; of those that read the boards 98% felt that they added to their understanding of the Burren.
- 57% were very satisfied with the site and 40% were satisfied.

The full results of the interviews at Aillwee Cave are contained in Appendix I.

3.7. Visitor Behaviour and Impacts

On the 6 September 2014 visitor observations were undertaken as part of the CAAS Ltd.¹ study to assist GeoparkLIFE to develop a survey methodology for assessing environmental impacts at the demonstration sites. One surveyor was present at the site, stationed on the mountain walk to the rear of the cave building. 114 visitors were observed during this exercise.

The results indicate that

- 45% of visitors arrived by car and 47% by bus
- The majority of visitors climbed up the steps and upon observing the steep incline and lack of marked pathway descended quickly. Some climbed up a short way to look at the view or take a photo and departed quickly.
- 46% caused incidental movement of stones or rooted vegetation as they climbed up the slope, this however had no discernible impact and no lasting damage was observed.
- One child was observed removing a rock from the area, this group of visitors represents 3% of all visitors to the site.
- Overall, the activities and effects observed during the study were not reported to result in any significant, long term adverse effects.

3.7.1. Ecological Study of Visitor Movement

As part of the CAAS Visitor Observation Study, EirEco Environmental Consultants were commissioned to carry out vegetation monitoring at the GeoparkLIFE demonstrations sites between October 21, 2014 and December 2, 2014. Vegetation was analysed in 1m² quadrats at pre-selected locations identified by CAAS in each site. Seven quadrat surveys were conducted at the Aillwee Cave site on the Mountain trail above the Cave building, as illustrated in Figure 1.

¹ CAAS Ltd. 2015 'Pilot Visitor Observation Studies of Environmental Impacts at the Burren & Cliffs of Moher Geopark, Co. Clare'.

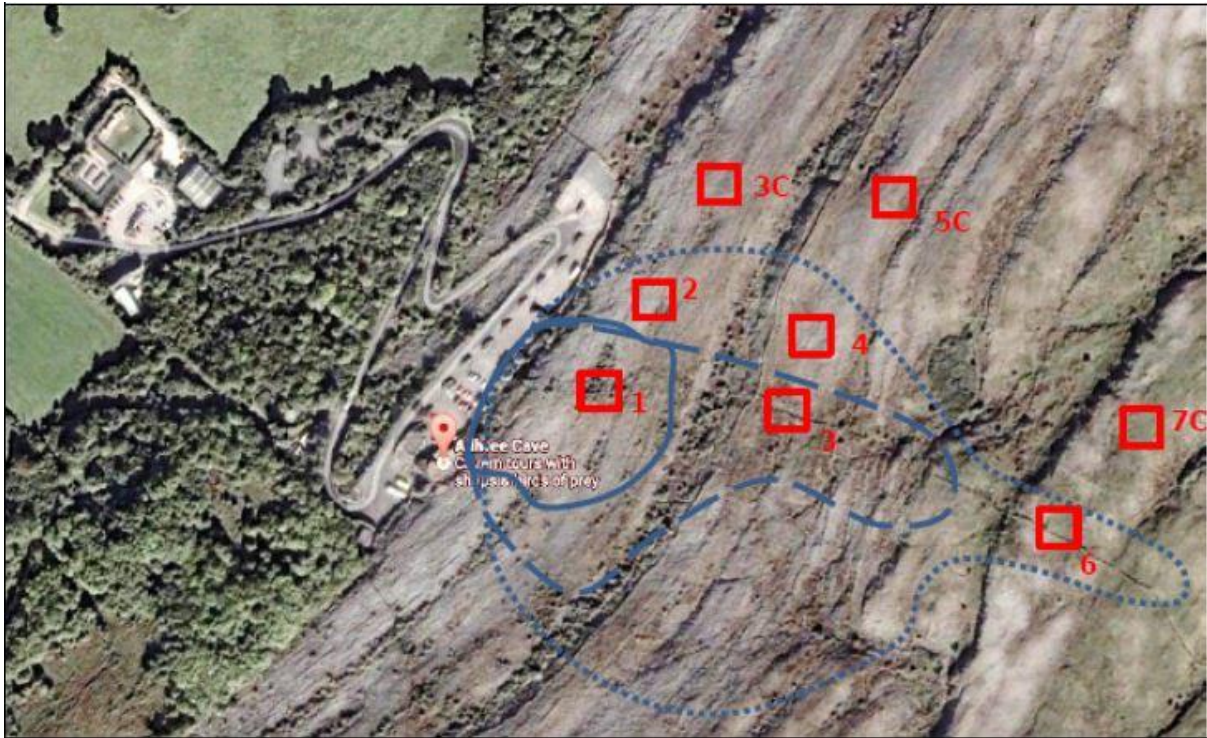


Figure 1: Quadrat locations on the mountain trail above Aillwee Cave.

The site results in the report state:

'All quadrats are located in this unmanaged but periodically grazed environment which consists of open limestone pavement with strongly structure terracing. There are distinct vegetation bands associated with the larger flat terraces, with vegetation varying between calcareous grassland, heath and scrub.

*The strongly structured terracing of the site limits the accessibility of certain areas to grazing by cattle, which results in localised areas of rank vegetation and scrub. The non-native plant Red Valerian (*Centranthus rubra*) was introduced around the cave approximately 20 years ago and has since established itself widely within the limestone pavement in the vicinity of the upper car-park. The plant was present over a considerable area on the pavement above the car-park facility and presents a very significant threat to the native communities of plant associated with the Burren karst landscape. The visual effect of tourist activity on the vegetation at this site is limited to the immediate vicinity of the steps leading from the carpark. While there is an obvious trail at the lower level with localised compaction of vegetation, it appears that visitors spread out over a broader area higher up. As with many sites which have exposed limestone pavement, visitors tend to walk preferentially on the rock thus avoiding trampling the vegetation. The grazing and poaching by over-wintering cattle has a far greater and more discernible impact on the vegetation at the higher levels. There is evidence of mini –dolmen and cairn building at a number of locations in the area'.*

To address the issue of the presence of Red Valerian (*Centranthus rubra*) on site as identified through the GeoparkLIFE Ecological Study it was agreed that further research was required to establish whether this plant is causing displacement of native plants. The agreed work programme was for consultation with local ecologists and delivery of a workshop on Invasive Species to the Burren Ecotourism Network which includes Aillwee Cave as a member.

An 'Invasive Species in the Burren Workshop' was organised by GeoparkLIFE, delivered by Burrenbeo Trust and attended by members of the Burren Ecotourism Network in March 2016.

Discussion took place as to whether Red Valerian is 'a problem invasive'. It was agreed that it often occurs on disturbed pavement and is good for pollinators. The plant is pollinated by both bees and butterflies and is noted for attracting insects. It is used as a food plant by the larvae of some Lepidoptera species. It is listed as an invasive in the Western Cape of South Africa but not in England or Ireland. Removal by hand in the Burren would involve possible disturbance of the limestone pavement, due to depth of root system and the alternative system of removal would be through the use of glyphosphate chemicals. Neither of these methods are acceptable in the Burren environment. It was agreed at the workshop that future monitoring of the site to determine any potential spread would be the best solution for the present.

Burrenbeo Trust will include it on their list for an Invasive Alien Species (IAS) map of the region which they are currently compiling through a citizen monitoring programme.

SECTION FOUR: SITE MANAGEMENT

4.1. Ownership

Name of Site Owner(s)

Mulqueeny and Johnson families

Name of Site Manager(s)

Nuala Mulqueeny is the on-site manager

4.2. Legal Properties

Are there any Rights of Way on the site?

Yes ☐ No ☒

Provide detail

Are there any Legal Burdens on the site?

Yes ☐ No ☒

Provide detail

[Click here to enter text.](#)

4.3. Protective Designations

Is the site a designated National Monument?

Yes ☐ No ☒

If yes, what is its status?

Are any feature(s) of your site recorded in the:

(a) Record of Monument and Places (RMP)

Yes ☐ No ☒

If yes, insert its Registration Number

[Click here to enter text.](#)

(b) Record of Protected Structure (RPS)

Yes ☐ No ☒

If yes, insert its Registration Number

[Click here to enter text.](#)

(c) National Inventory of Architectural Heritage (NIAH)

Yes ☐ No ☒

If yes, insert its Registration Number

[Click here to enter text.](#)

Is the site located within an Architectural Conservation Area (ACA)?

Yes ☐ No ☒

If yes, insert the name of the ACA

[Click here to enter text.](#)

If the site contains natural heritage features are they within the following designated areas?

(a) Special Area of Conservation (SAC)

Yes ☒ No ☐

If yes, insert the Site Name and Code

Aillwee Cave Visitor centre lies on the boundary of Moneen Mountain SAC. The indoor entrance area to the cave which houses a shop and restaurant is built into the Mountain. All other facilities – access road, car parks, Birds of Prey Centre, Farm Shop and Woodlands Activity Area are all located outside the SAC.



Figure 2: Aerial view of Aillwee Cave Visitor Centre in relation to Moneen Mountain SAC boundary (SAC area indicated with red hash marking)

(b) Special Protection Area (SPA)

Yes ☐ No ☒

If yes, insert the Site Name and Code

[Click here to enter text.](#)

(c) Natural Heritage Area (NHA or pNHA)

Yes ☐ No ☒

If yes, insert the Site Name and Code

[Click here to enter text.](#)

4.4. Current Visitor Management

Several actions have been undertaken by the Aillwee Cave management team in recent years to reduce any adverse effects the operation might have on its environment. These include:

- Reduction of the numbers of visitors entering the cave during each tour from 30/35 to 25. This action was undertaken to protect the humidity of the cave and due to customer feedback that it was too noisy and the guides were hard to hear.
- To control numbers of visitors at the entrance building to the cave and prevent build-up at the reception desk, each visitor group is met at the road entrance gate, greeted warmly and given a map. The parking areas are indicated on the map with directions to all the attractions within the site.

- A road train has been introduced to ferry people around the site should they wish to avail of it. This is particularly aimed at the less able bodied.
- The lighting in the cave is kept at a low level to maintain humidity and habitat. Guides turn on spotlights along the tour as required.
- The colony of lesser horseshoe bats who inhabit the cave are regularly monitored by a professional ecologist to maintain a healthy population.
- Radon levels are regularly monitored by monitor boxes in the cave chambers and portable monitors carried by the guides.
- The Birds of Prey Centre operates under a Zoo licence which is monitored by the national Parks and Wildlife Service once every 18 months.

Aillwee Cave Visitor Centre is a member of the Burren Ecotourism Network. It operates under a set Environmental policy promising to undertake the following actions:

- To achieve sound environmental practices across their entire operation.
- To produce an Annual Environmental Plan setting out their Objectives, Targets and planned Actions.
- To comply fully with all relevant legislation.
- To minimise their waste and reduce water consumption where possible.
- To Reduce, Reuse and Recycle the resources consumed by their business wherever practical.
- To invite their customers, visitors, suppliers and contractors to participate in their efforts to protect the environment.
- To provide all employees with the training and resources required to meet their objectives.
- To constantly and consistently engage with and support charitable partners within the Burren and nationally.
- To openly communicate their policies, respecting the Burren and Cliffs of Moher Geopark Sustainable Code of Practice, to interested parties such as their staff, visitors, suppliers and charitable partners within the Burren and nationally.
- To monitor and record their environmental impacts on a regular basis and compare their performance with their policies, objectives and targets which are listed in their action plan.

SECTION FIVE: ACTION AGREEMENTS AND IMPLEMENTATION

The Aillwee Cave Management Team have set themselves the following objectives and Actions under their Environmental Policy

Energy

Objective: To reduce their energy consumption by 10% in 2017/2018 over 2016.

Action: Replace existing bulbs with LED in the Main Cave Access Building and adopt a 'one hour less' policy on machines and lighting where applicable, through staff training and visitor awareness.

Water

Objective: (a) To investigate the possibility of reusing water for cleaning purposes in the Birds of Prey Centre and toilet flushing purposes throughout the entire site.

(b) To investigate for and repair leaks in the main water tanks at the Cave Access Building.

(c) To submeter water usage during the cheese production months of March to October.

Action: A waste water audit was completed which showed that the grey water produced on site is acceptable for reuse purposes outlined

Waste

Objective: To reduce the waste sent to landfill by 150kg during 2017/2018.

Action: All rigid plastics on site are extracted from landfill waste, baled and sent separately to the recycling plant in Cree, Co Clare.

Green Purchasing

Objective: (a) To buy goods in bulk as much as the business requires.

(b) To engage with suppliers to reduce packaging in the region of 20% over a two year period 2017/2018 and to enquire about suppliers policies when ordering goods.

(c) To increase usage of recycled paper products to 30% of all paper/cardboard purchased.

Action: All cleaning products are of Eco Label standard.

The adoption of recycled sandwich wrappers for use in the tea room and farm shop.

Usage of cloth tea towels and service cloths in the tea room and farmshop

Installation of coffee machines which do not require filters.

Community Social Responsibility through sustainable activity.

Objective: (a) To Support charitable partners within the Burren region and nationally.

(b) To engage in a local "Clean Up" at least once a year in conjunction with the Burrenbeo Conservation Groups, Meitheal and Adopt a Road Schemes.

Action: Aillwee Cave supports The Golden Eagle Trust, Clare Memories, The Burren Gaels Ladies Football Club and The Kilfenora Timeline

Since opening in 1976, Aillwee Cave has maintained the local approach road and hedgerow litter free.

Interpretation & Guiding

Action: Visitors receive a welcome to, educating about and interpretation of the Burren Region personally from staff members through fully guided cave tours, narrated Flying Displays, one to one hawkwalks, bushcraft camps and masterclasses.

All employees engage in a comprehensive induction training course prior to starting work. Operating under Leave No Trace Principles staff invite visitors, suppliers and contractors to participate in a joint effort to protect the environment of the Visitor Centre and the wider Burren.

Sustainable Transport

Action: The Aillwee Cave website provides links to information on bus and rail services in the area. Each visitor receives and is guided through a site map.

Visitors are encouraged to park their car and use the paths and/or the provided free of charge road train that connects all the facilities, minimising short and unnecessary car trips.

A secure bike and locker park is provided for walkers and cyclists. Since March 2015 the Centre has adopted the 'Have a free Cuppa Tea if you Cycle to me' incentive developed by Burren Ecotourism Network.

Communications

Action: The performance and achievements of the Aillwee Cave complex is communicated at least quarterly i.e., every three months, through the website and social media sites.

SECTION SIX: MONITORING PLAN

The management team at Aillwee Cave complete their online Code of Practice, developed under the GeoparkLIFE programme, on an annual basis and this provides them with a new updated Environment Action Plan which includes targets for improvement and a system for adequately managing waste, wastewater, energy, travel impact and purchases for the upcoming year.

The results of their 2017 evaluation under this programme shows that Aillwee Cave demonstrate evident engagement and contribution under the principles of the GeoparkLIFE Code of Practice scoring an overall performance of 96%.

To this end Aillwee Cave and Birds of Prey Centre through staff training, visitor education and valid interpretation are committed to taking the following actions:

To monitor and record their environmental impacts on a regular basis and compare their performance with their stated policies, objectives and targets which are listed in their detailed action plan and include the following:

- To achieve sound environmental practices across their entire operation.
- To comply fully with all relevant legislation.
- To minimise waste and reduce water consumption where possible.
- To Reduce, Reuse and Recycle the resources consumed by the business wherever practical.
- To invite customers, visitors, suppliers and contractors to participate in a joint effort to protect the environment through implementation of the Leave No Trace Seven Principles.
- To provide all employees with the training and resources required to meet these objectives.
- To constantly and consistently engage with and support with charitable partners within the Burren and nationally.
- To openly communicate their policies, respecting the Burren and Cliffs of Moher Geopark Sustainable Code of Practice, to interested parties such as staff, visitors, suppliers and charitable partners within the Burren and nationally.
- To update on an annual basis their Environmental Plan based on the results of their monitoring system.

SECTION SEVEN: ADAPTIVE VISITOR MANAGEMENT PLANNING

To ensure that the site management process is 'adaptive' the results of site assessments and monitoring sessions must be evaluated and management actions adjusted on the basis of what is learnt.

ACTION	METHODOLOGY	RESPONSIBILITY
Analysis and Evaluation of Data collected	All data with regard to the condition of the site can be analysed and evaluated on the GeoparkLIFE Code of Practice system and the monitoring app web portal	Aillwee Cave Management, Burren Ecotourism Network and Burren & Cliffs of Moher Geopark
Data Storage	It is recommended that data collected be stored on the GeoparkLIFE Code of Practice system and monitoring app web portal.	Aillwee Cave Management, Burren Ecotourism Network and Burren & Cliffs of Moher Geopark
Feedback to Management Group	All data collected and stored on the GeoparkLIFE systems and feedback on evaluation and progress will be shared with the site managers	Aillwee Cave Management, Burren Ecotourism Network and Burren & Cliffs of Moher Geopark
Review of effect of actions taken by Management Group	A review of actions taken, monitoring results and future planning will be undertaken on an annual basis under the GeoparkLIFE Code of Practice.	Aillwee Cave Management, Burren Ecotourism Network and Burren & Cliffs of Moher Geopark
Agree strategy for adjustment of actions when and where required	A strategy for improvement of actions, where required to address any issues will be made following evaluation of annual monitoring results.	Aillwee Cave Management, Burren Ecotourism Network and Burren & Cliffs of Moher Geopark

APPENDIX I

VISITOR ATTITUDES SURVEY Aillwee Cave 2014 (MWB)

1. How long do you intend visiting this site?

Less than 1 hour	1-2 hours	3-4 hours	5-6 hours	Full day
27	66	7	0	0

2. How would you rate the signposting for directions to this site on a scale of 1-10 (1=poor; 10=very good)

1	2	3	4	5	6	7	8	9	10
0	0	1	0	5	0	1	20	26	48

3. How would you rate the physical entry to this site (including stiles and footpaths)

1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	5	21	27	48

4. How would you rate the parking facilities at this site? (Scale 1-10)

1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	0	20	29	51

5. Have you noticed any information boards at this site/location?

Yes	No
78	22

6. Have you read the information on them?

Yes	Partially	No
65	28	8

7. Did the information add to your understanding of the Burren?

Yes	No
98	2

8. How would you rate your overall satisfaction with your visit to this site?

Very dissatisfied	Dissatisfied	Neither satisfied or dissatisfied	Satisfied	Very satisfied
0	2	0	40	57

9. What is the main type of transport you are using to travel within the Burren?

Own car	Hired/rented	Public transport	Motorbike	Coach day tour	Coach guided tour	Private chauffeur tour	Bicycle	Other
40	24	0	2	21	6	1	1	4