

BURREN NATIONAL PARK

SITE ASSESSMENT REPORT



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December 2014

(Updated February 2015 to include Visitor Survey data)

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1. SITE DESCRIPTION

1.1. LOCATION

The GeoparkLIFE demonstration site at the Burren National Park is situated in the eastern zone (Zone 3) as defined under this project. This area attracts specialist and academic tourists who have an in-depth interest in the area or are pursuing a specialised activity, such as studying the Burren flora. The National Park attracts a wide variety of visitors interested in the landscape and scenery. School tours are common in the May-June period, while many visitors come to view the flora during the spring and early summer. Most these visitors use the designated walking trails within the Park.

The area is characterised by stunning landscape, narrow roads, unspoilt upland regions and a wide range of natural and cultural heritage sites with little or no visitor facilities and a very small number of tourist attractions and services mainly located close to the village of Carran and the town of Corofin.

OS 1:50k Mapsheets: 51 and 52

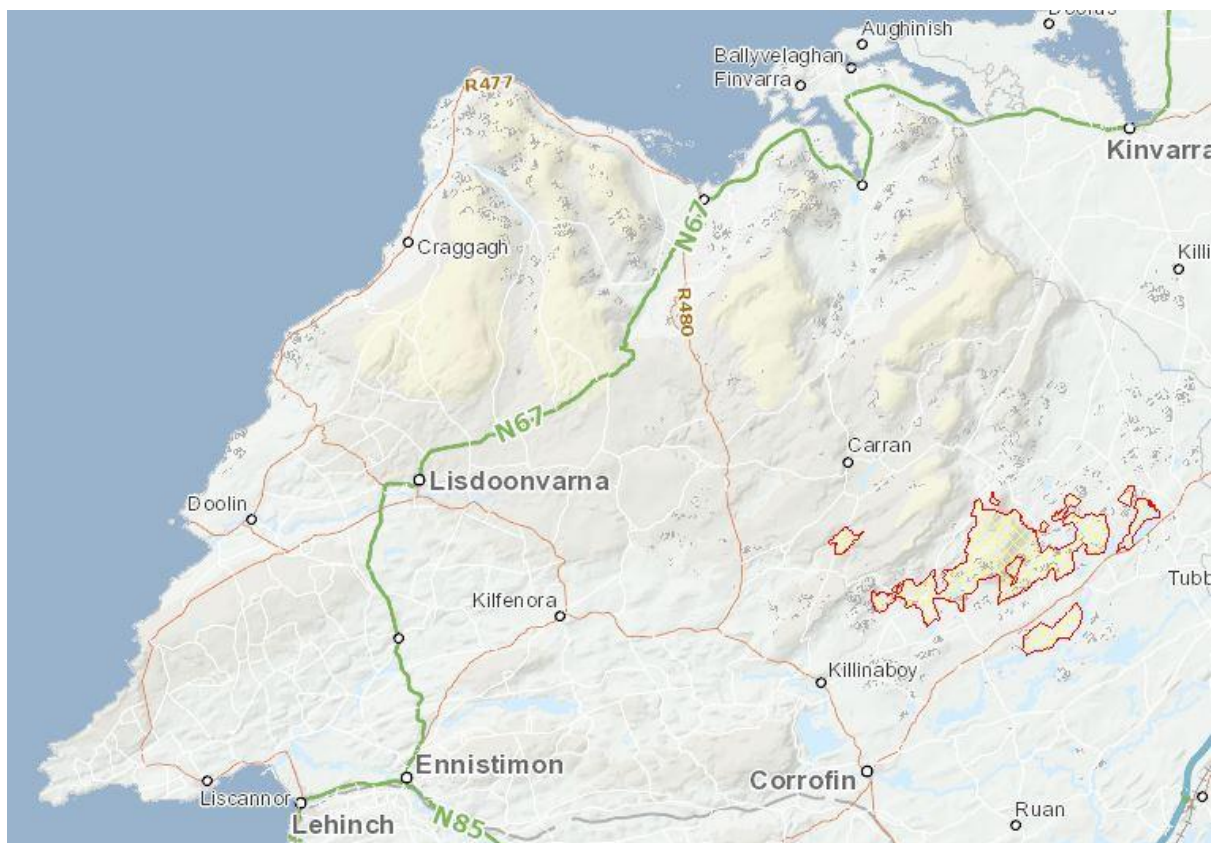


Figure 1: Location of Burren National Park demonstration site (outlined in red)

1.2. LAND DESIGNATIONS

The Burren National Park covers approximately 1500 hectares in eight separate blocks of land. The main body of the Park lies within the townlands of Glenquin, Gortlecka, Knockaunroe, Cooloorta and Creehaun to the north-east of the villages of Corofin and Killinaboy.

These lands were acquired on behalf of the State by the Office of Public Works (OPW) and are managed by the NPWS.

The Park land was bought by the Government with the aim of providing information on the National Park and to promote conservation through awareness and education.

All the site is located within the East Burren Complex Special Area of Conservation (SAC 001962) and has public access.

The area of the Park surrounding Mullaghmore Mountain is deemed of International importance in the Clare County Geological Site reports and is proposed for Natural Heritage Area (NHA) designation under the Irish Geological Heritage (IGH) Programme 1 Karst theme.

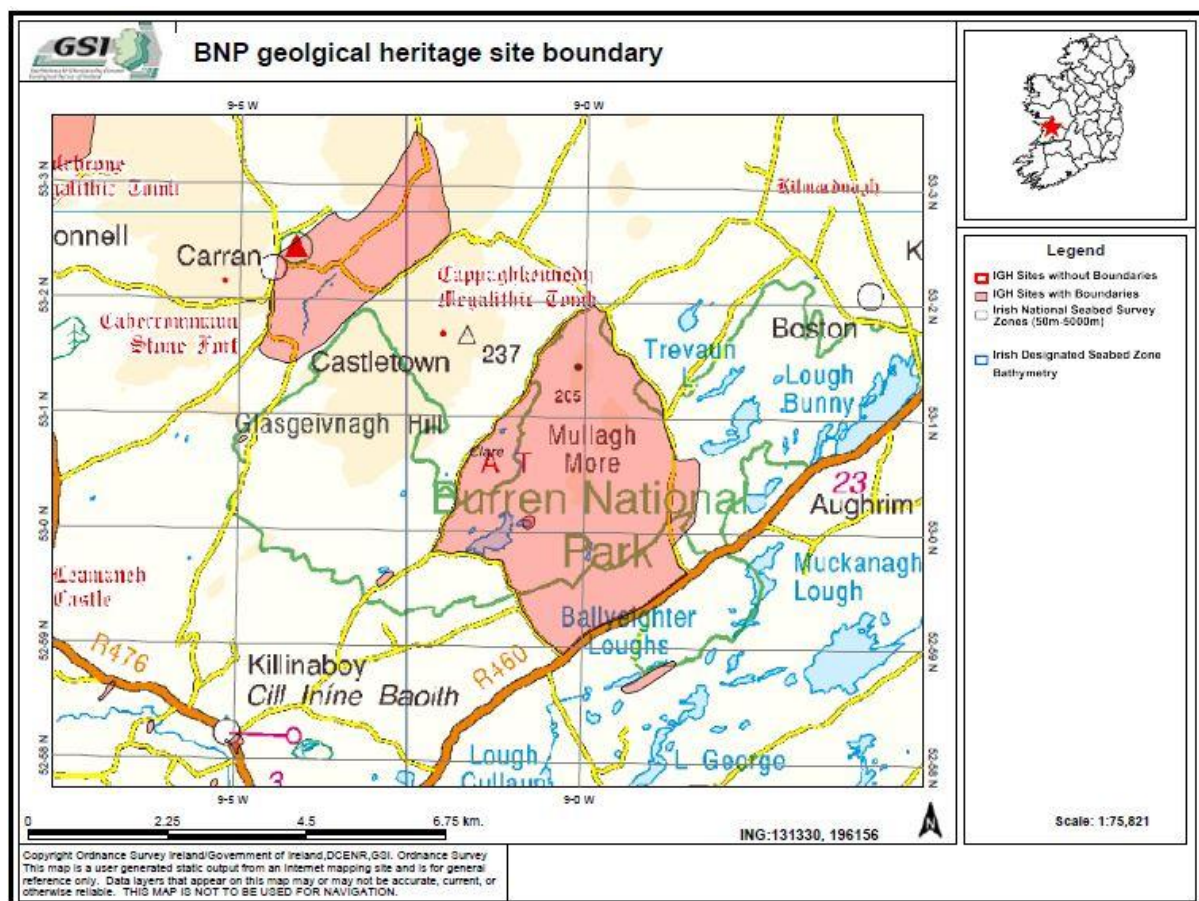


Figure 2: Geological heritage site boundary at Burren National Park as defined by the Geological Survey of Ireland

Coordinate Position

Irish National Grid: 132764, 196226

County

NAME: Clare

AREAKM2: 3241.10009765625

Geological Heritage Sites Boundaries

Site Code: CE030

Site Name: Mullaghmore / Slieveoe / Knockanes

IGH Theme Primary: IGH 1

County: Clare

Site Description: Isolated mountains with a diverse range of subaerial karren developed on flat and dipping limestone beds

Geological Feature: The isolated mountains of the Mullaghmore – Slieve Roe – Knockanes site hosts many interesting features including spectacular limestone terraces and pavements, which have developed on the flat and inclined limestone beds.

Easting IG: 133000

Northing IG: 195750

Designation: CGS, recommended for Geological NHA

Figure 3 : Clare County Geological site report for area around Mullaghmore in the Burren National Park.

1.3. FEATURES OF VISITOR INTEREST

1.3.1 BUILT HERITAGE

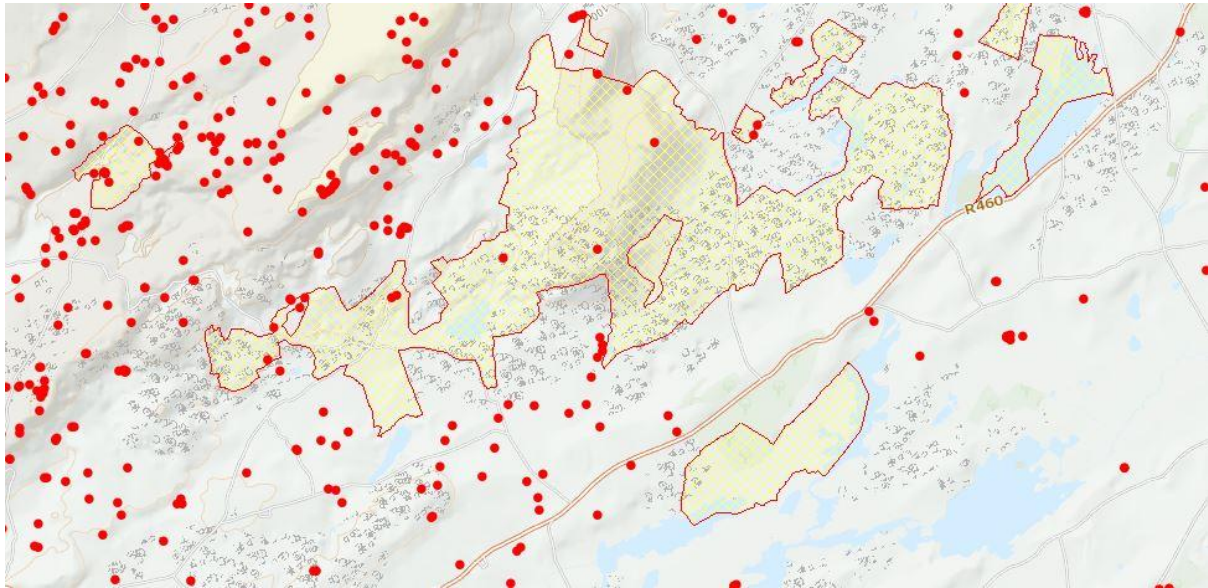


Figure 4: Recorded monuments in the Burren National Park (indicated with red dots) Source: www.heritagemaps.ie

Within the Burren National Park boundary there are 33 archaeological monuments recorded on the National Monuments Service Record of Monuments and Places. These include nine hut sites, two enclosures, two caves, five fulacht fia, six unclassified cairns, one wedge tomb and Cahercommaun cashel with its associated house sites and souterrains. The most visited archaeological monument within the Park is Cahercommaun Cashel, a designated National Monument in State care. This triple walled stone cashel is situated on the NW facing edge of a deep ravine with spectacular vistas of the surrounding countryside. The main occupation is dated to the second half of the first millennium AD but earlier activity on the site is likely and the site is believed to have been in use up to the late 9th-early 10th century. The site is open to the public, signposted and a designated trackway leads from the road up to the cashel. A wooden boardwalk and viewing point have been developed at the site by the Office of Public Works.

1.3.2. NATURAL HERITAGE

Habitats

The Burren National Park contains examples of all the major habitats found within the Burren region: Limestone Pavement, Calcareous grassland, Hazel scrub, Ash/hazel woodland, Turloughs, Lakes, Petrifying springs, cliffs and Fen. Approximately 75% of plant species found in Ireland are represented within the habitats of the Burren, including 23 of Ireland's 27 native orchid species.

Plants normally associated with sub-arctic conditions such as Mountain Avenas, are found growing alongside southern European species, such as Bloody Cranesbill and the dense-flowered orchid whose distribution is centred on the Mediterranean. In addition, plants ordinarily associated with acidic conditions such as heathers grow abundantly on the alkaline limestone and plants typical of woodland flora commonly grown in open conditions. This diversity attracts botanists from all over the world to the Burren and the National Park.

Among the seven species of bats that inhabit the Park is the Lesser Horseshoe Bat, a species that is endangered in an international context. This Bat is confined in its distribution to the Western counties

of Mayo, Galway, Clare, Limerick, Kerry and West Cork. The small caves in the Park provide hibernation sites for this threatened species.

Ninety-five species of bird have been recorded within the Park, at least fifty of which have used the Park for breeding. They include Ravens, Peregrine Falcons, Kestrels, Merlin, and in the winter, Hen Harriers. There is also a good representation of the smaller songbirds and in

Two reptile species are found in the park; the native Common or Viviparous Lizard and introduced Slow Worm. Twenty-seven of Ireland's thirty-three resident and regular migrant butterflies have been recorded here and the area around Mullaghmore is believed to be the richest butterfly site in Ireland. Five of the butterfly species recorded in the Park are deemed endangered or vulnerable and a further four are considered to be under threat.

The mosaic of interconnected habitats in the Burren support a vast number of different lichen species some of which are only found in the Burren Region.

Geology

The highest point in the park is Knockanes (207 metres) which continues as a curving terraced ridge to Mullaghmore to the south. East of this ridge is an area of extensive, low lying limestone pavement containing several semi-permanent lakes. West of this ridge the pavement sweeps down to partially drift-covered ground which gradually rises again to reach the foot of a rocky escarpment. To the south of the Park the limestone bedrock disappears under a layer of glacial till. This till area is intensively managed for pasture and silage. (www.burrennationalpark.ie)

The area of the National Park is the only part of the Burren that has been subjected to any major tectonic disturbance. Elsewhere the limestone beds are flat except for a very slight tilting to the south west. Within the Park substantial folding of the rock may be observed at Mullaghmore where anticlinal and synclinal folding are evident. This gives the hill its characteristic shape. The syncline at Mullaghmore has dips of 10 - 15° with an east-northeast to west-southwest orientation.

Mushroom stones at Gortlecka are among only 63 mushroom stones known in the country and are a recorded site under the County Geological Survey. The site report includes the following statements: *'.....as they are within the Burren National Park they are the least vulnerable to damage or loss. They are potentially worthy of specific attention on interpretative panels, guidebooks etc.'*

2. SITE CONDITION

2.1. Access

2.1.1. Approach Roads

The Burren National Park is intersected by several public roads. The most used access point is at a small crossroads at Gortlecka where two small parking lay-bys are located. This is the most popular visitor location within the Park as it includes the iconic Mullaghmore Mountain which is the most highly recognised feature of the National Park.



Photo 1: Mullaghmore Mountain Burren National Park

The crossroads at Gortlecka is approached from the south-west by a third-class road from Killinaboy Village; from the north-east by a third-class road from Kinvara/Gort and from the east by a third-class road, known locally as ‘the Crag Road’ which branches off the R460 between Corofin and Gort. The fourth ‘road’ at the cross is a ‘green road’ (i.e. not open to public vehicular access). The green road is part of a designated public walking trail and provides access to a private entrance roadway to a farm.

All three approach roads are narrow and winding and in some places only wide enough for the passing of one car. They are not suitable for coach traffic.

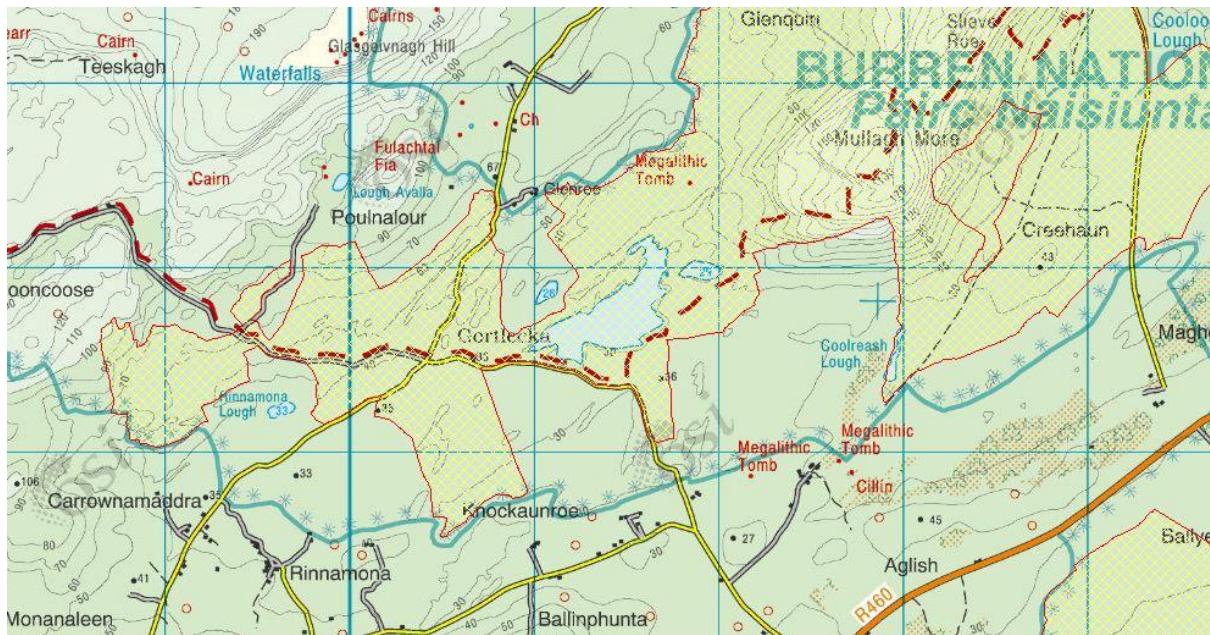


Figure 5: Road system at Gortlecka, Burren National Park

2.1.2. Directional Signage

There is no directional road signage or boundary signage to the Burren National Park. Promotion of the Park as a unit is done through the website and at the National Park Information Point in Corofin.

2.1.3. Parking

Two small official parking areas are located at Gortalecka Crossroads. They consist of a roadside lay-by on the third-class approach road from Killinaboy Village and a second smaller lay-by on the Crag Road at the entrance to the designated Green Nature Trail. There is space to accommodate approximately 10 cars at the former and approximately five at the latter. However, parking can be haphazard and can extend along the grass verges of the roadway in each direction and onto the 'green road' opposite at peak times. During the busiest days in the summer season, there can be severe traffic congestion at the crossroads with demand for parking greatly exceeding supply and on occasion, large coaches manoeuvring through the area and attempting turnarounds at the crossroads.

Unofficial road verge parking occurs further along the Crag Road throughout the year as people seek access to the walking trails at Mullaghmore. The NPWS wish to discourage parking along the Crag Road as much as possible due to the sensitive nature of this landscape.



Photos 2 & 3: Parking at Gortlecka Crossroads (July 2014)

2.2. Visitor Facilities

2.2.1. Free Bus Service

To help alleviate the traffic and parking pressures, the NPWS has operated a free ‘hop-on’ and ‘hop-off’ bus service for visitors on a loop system from the Park Information Point in Corofin Village to the exit and entry points of the designated walking trails since 2013. Operating from May to August (inclusive), seven days a week between 10.15am to 18.00pm, there are seven departures per day from the Information Point. The delivery of this bus service is uncertain from year to year as it is decided on an annual basis dependant on the available budget.



Photo 4: Bus stop sign

Free Bus Service

Burren National Park

www.npws.ie
www.burrennationalpark.ie

Stops	Depart	Return
Corofin (Burren National Park Information Point)	10:15	11:15
	11:15	12:15
	12:15	13:15
	14:00	15:00
	15:00	16:00
	16:00	17:00
	17:00	18:00
Mullagh More Crossroads (Start of Nature Trail & Orange Trail)	10:30	11:00
	11:30	12:00
	12:30	13:00
	14:15	14:45
	15:15	15:45
	16:15	16:45
	17:15	17:45
Crag Road (Start of Mullaghmore Walks)	10:35	10:55
	11:35	11:55
	12:35	12:55
	14:20	14:40
	15:20	15:40
	16:20	16:40
	17:20	17:40
Coolorta (Red Trail)	10:45	10:45
	11:45	11:45
	12:45	12:45
	14:30	14:30
	15:30	15:30
	16:30	16:30
	17:30	17:30

Important

Terrain
 Uneven ground
 Loose rocks
 Steep ground and Cliffs
 – Do Not Climb
 Rocks are very slippery when wet
 Use stiles provided

Weather
 Very changeable
 Check the weather forecast
 Be prepared for changing weather

Gear - recommended
 Wear strong walking boots
 Bring raingear & warm clothes
 Map & compass recommended
 Bring food and drink

These are way marked walks we recommend you stay to them. Take home all litter and food waste (including tea bags, fruit peel and biodegradable waste).

In case of accident and/or emergency please call 999 or 112 and ask for mountain rescue, police or gardai.

Figure 6: Free Bus Service timetable leaflet

Bus stop signs within the Park consist of a bus symbol and the road name. The timetable is available through the Burren National Park (BNP) website or on a leaflet which can be collected in the BNP Information Point in Corofin. It is not posted on the bus stop signs. Therefore, if walkers wish to use the bus from the Park into Corofin they may not know when the bus will arrive at their chosen stop.

Attempts have been made to record the numbers using the bus service since its inception in 2013, but the results have been haphazard as they are dependent on the driver filling out the record on a continuous basis and some returns were found to be unreliable.

2.2.2. Designated Walking Trails

Seven way-marked walking routes have their starting point at Gortalecka Crossroads. Six have been developed by the NPWS, while the seventh is a National Looped Walk developed by Fáilte Ireland in partnership with a private landowner. The long distance way marked Way walking route: the Burren Way, also traverses the area (Figure 8).

The National Park routes are colour coded as illustrated in Figure 7. The National Looped Walk, known as the Lough Avalla Looped Walk is illustrated in Figure 8.



Figure 7: Burren National Park designated walking trails

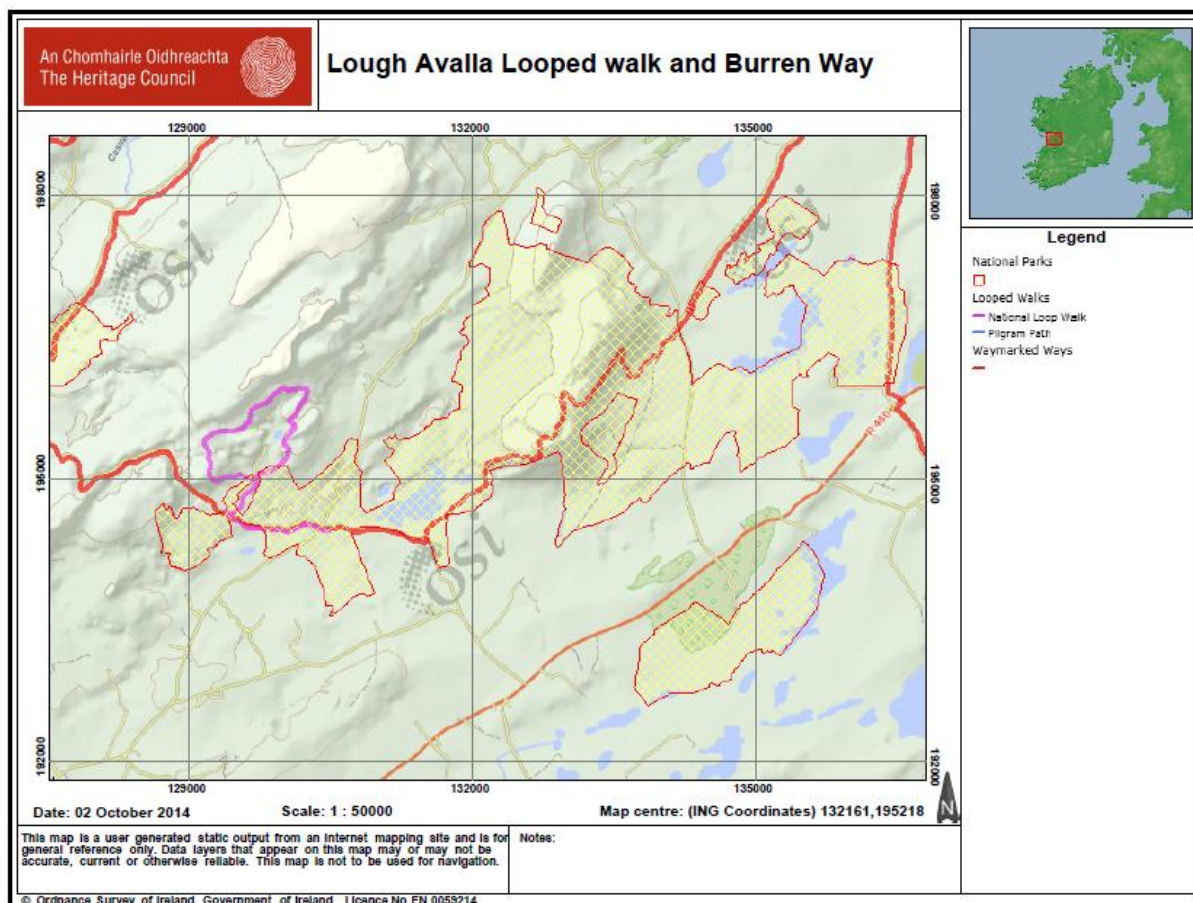


Figure 8: Lough Avalla Looped Walk (purple loop) and the Burren Way (red line)

2.2.3. Interpretation

Visitor Information Point

The Burren National Park Information Point is based in the nearby town of Corofin, approximately 7km from Gortlecka. It has operated on a seasonal basis since 2012. Managed by the NPWS, it is open to the public between April and September each year. Information is provided on the formation, management and wildlife of the Park and the attractions and activities available in the Burren in general. Within the Information Centre is an interactive exhibition interpreting the geology and wildlife of the Burren.

Guided walks

The NPWS offer free guided walks along the walking trails of the National Park covering topics which include flora and fauna, geology and management practices. These walks are organised on a regular basis between April and September. Children's activities such as art in the park and bug hunts etc. are also organised.

Private walking guides also operate guided tours within the park under permit.

An interactive tour App of the Green Nature Trail within the Park is available for iPhone and iPad and can be downloaded from the App Store or iTunes.

Information Boards

At the lay-by at Gortlecka Cross there are two panels side by side.

A large interpretive panel mounted on a limestone plinth contains a map showing the Burren National Park boundary and descriptions of numbered ecological points of interest within the Park.



Photo 5: Interpretive panel at Gortlecka Crossroads BNP

The second panel is a trailhead panel for the designated walking trails within the Park. It illustrates the walk routes and provides information regarding length, terrain and difficulty. Similar panels are located at the entrance to the Green Nature Trail and the Red, blue and green routes on the Crag Road at Mullaghmore. All of these panels are mounted on steel lectern style mountings.

At the entrance to the green road at Gortlecka is a BurrenLIFE panel providing information with regard to the now completed Burren LIFE Farming for Conservation programme; the use of this parcel of land as a demonstration site for that project, the Natura 2000 network of sites and the ecological and archaeological features of interest present are indicated on a map of the site. Adjacent to it is a Trail head sign for the Lough Avalla walking route.



Photo 6 : BurrenLIFE panel at Gortlecka BNP

3.Current Visitor Use of Site and Resulting Impacts

In September 2014, several GeoparkLIFE initiatives were undertaken to provide baseline data on visitor numbers at each of the demonstration sites and to develop a methodology to determine how visitors' behaviour is impacting on the natural and built heritage of sites. Before this, baseline information was either non-existent or very sporadic.

3.1. Visitor Numbers

There are no exact figures available for the number of people who visit the Burren National Park each year. This is due to the nature of the Park, as it does not have an official exit or entry point at which numbers could be calculated.

Since its opening in 2012, the following visitor numbers have been recorded at the Burren National Park Information Point in Corofin. However these numbers only record the visitors who visit the Information Point and attend National Park organised events. They do not represent the much larger volume of visitors who move through the Park without going to the Information Point.

Year	Visitor Numbers to Burren National Park Information Point and attending BNP organised events
2012 (4-5-12 to 30-9-12)	4180
2013 (5-4-13 to 30-9-13)	6943
2014 (6-4-14 to 28-9-14)	7206

Table 1 : Recorded visitor numbers to BNP Information Centre 2012-2014

Through the GeoparkLIFE initiative six footfall counters were installed along the designated walking trails within the Park. On September 11, 2014, a footfall counter was installed inside the stile entrance to the Green Nature Trail; inside the road entry point to the Mullaghmore trails (Crag Road) and on the Yellow Nature Trail. This was followed on November 5, 2014 by the installation of three counters at the lake (start of blue, green and red Mullaghmore walking trails) and further along on the blue and red walking trails. The following numbers were recorded between September 11, 2014 and February 13, 2015:

Trail	Sept 2014	Oct 2014	Nov 2014	Dec 2014	Jan 2015	Feb 2015
Green Nature	437	299	136	96	131	97
Yellow Nature						51
Crag road entry to Mullaghmore trails	1003	498	380	412	641	340
Lake (start point of red , blue and green Mullaghmore trails)	0	0	354	634	891	300
Blue	0	0	19	0	1	10
Red	0	0	657	448	1087	560
Totals						

Table 2: Data collected by Footfall counters in BNP September 2014 to February 2015. Note: The counters on the yellow and blue trail malfunctioned during this time period and were subsequently replaced. Therefore the numbers recorded for these locations between Sept 2014 and Feb 2015 are obsolete.

The counters will remain in place for the duration of the GeoparkLIFE project and results will be collected and analysed by the GeoparkLIFE team and shared with the NPWS.

3.2. Visitor Attitudes Survey

A Visitor Survey was conducted at the site on seven days between 5th September and 11th October 2014 as part of a wider survey of the GeoparkLIFE demonstration sites by Millward Brown Ltd. A surveyor was placed at the parking lay-by at Gortlecka crossroads. Sixty-nine interviews were conducted at this site. The purpose of this survey was to record Visitors attitudes to the infrastructure at these sites and to the Burren. The results indicate:

- 40% of visitors interviewed gave a rating of between 8-10 for signposting to the site (1 being poor and 10 high):
- 77% rated physical entry between 8 and 10
- 59% rated parking facilities between 8 and 10
- 91% arrived by car to the site
- 87% noticed the information; 72% read them entirely and 23% partially; of those that read the boards 95% felt that they added to their understanding of the Burren.
- 62% were very satisfied with the site and the remaining 38% were satisfied.

The full results of the interviews at the Burren National Park are contained in Appendix I.

3.3. Visitor Observation Studies

Two sets of Visitor observations were carried out at the site

- On September 6th and 7th 2104 visitor observations were carried out by CAAS Ltd.¹ as part of a project commissioned by Fáilte Ireland to assist GeoparkLIFE in developing a survey methodology for assessing visitor movement around a site and how visitor behaviour is impacting on the site. Within the Burren National Park the observation study took place on Sunday Sept 7th from three locations. One observer was located at Gortlecka Crossroads; a second was located approximately 500m along the Green Nature Trail from the road entrance; while the third was located approximately 500m in from the Crag Road entrance point to the Mullaghmore walking trails. A total of 205 visitors were observed at the sites during the study. The results indicate that
 - 43% read the information boards
 - 87% of visitors were involved in low impact activities
 - 64% of activities had no effect on the environment ; 16% were non-noticeable wear and tear; 11% were light littering while the remaining 8% involved movement of material (stones, rooted vegetation, fauna)
- On September 16, 2014 visitor observations were carried out by GeoparkLIFE between 10am and 2.30pm. The purpose of this exercise was to determine the movement of people around the site from the parking area at Gortlecka crossroads and how feasible it was for one observer to track a group of visitors and monitor their behaviour and direction of movement using the template developed for the CAAS study, in order to inform future monitoring at this site. The exercise showed that to monitor this site into the future using the visitor observation template being developed a number of well instructed observers would have to be deployed during the same time period. The data sheet of observational findings is contained in Appendix II.

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



Figure 9: Location of observer stations for Visitor observation study carried out by CAAS Ltd. at Gortlecka and Green Nature Trail Burren National Park September 7, 2014.

3.4. 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. Fourteen quadrat surveys were conducted in the Burren National Park along the designated walking trails centred on Gortlecka and the Crag Road as illustrated in Figure 10.

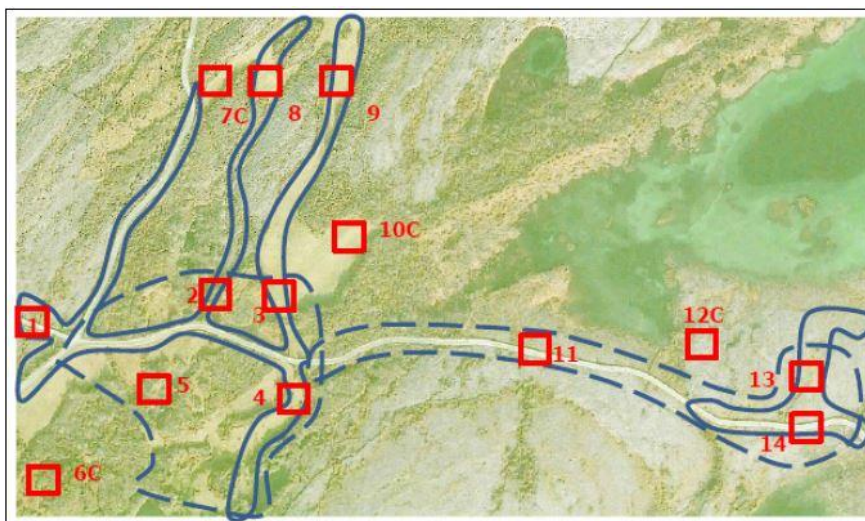


Figure 10: Location of quadrats for ecological monitoring at Burren National Park (EirEco Ltd. 2014)

The following is an extract from the ecological survey report for Burren National Park demonstration site (EirEco 2014):

'The visual effect of tourist activity on the vegetation at this site is evident along the various trails, especially where they occur on grassland habitat and close to the trail head. In some areas the trails are defined within grassland by mowing of the grass along the trail. The NPWS vary the trails in certain locations by mowing a new trail when vegetation is showing signs of wear on the existing trail. Where there is exposed limestone visitors walk preferentially on the exposed limestone. Car-parking facilities at the trail head are limited and consist of unofficial lay-by's on the road margin. This results in significant compaction of the vegetation and a considerable amount of bare ground. There is evidence of some surface limestone being removed from areas of karst close to the road. Small amounts of litter are also evident adjacent to the road.'

The NPWS Conservation Range has been carrying out monitoring of the Mullaghmore walking trails (red, blue and green) within the Park since 2012 using fixed point photography and measurement of the width of the trail at fixed points along each trail. As the trails are long distance, there are a large number of monitoring points. Results are recorded manually and later entered onto a computer WORD file. As only one member of staff is responsible for this work; it involves a very large number of monitoring points and the work is completed manually, the process is extremely laborious and slow. Attempts have been made by the Conservation Ranger to carry out the monitoring on an annual basis but this is not always feasible due to other work commitments.

3.5. Community Consultation

Through conversation with BNP staff and local tourism providers the following issues were raised:

- The number of visitors using the free Burren National Park bus are low due to lack of awareness among visitors of this service. Many European tourists arriving at the BNP Information Point, have read the BNP website prior to their visit are aware of the service and are the main users. However, the majority of Irish and American tourists discover the BNP Information Point by chance and are unaware of the existence of the Park, its attractions and the bus service. This is most likely due to the lack of road signage to the Centre/Park and advertising/marketing of the facilities.
- There are currently three licensed operators offering public walks within the BNP. At times the number of participants on walks can be in the region of 30-40. This can cause problems with traffic congestion and large numbers of people impacting on the landscape, visually and physically at any one time.

3.6. Conclusions: Site Recreational Pressure Points

Through the field survey undertaken as part of this site appraisal, consultation with site managers and staff of the Burren National Park and discussion with the B2 working group, the following recreational pressures at the site were identified:

- The lack of official and adequate parking facilities within the Gortlecka -Crag Road area of the Burren National Park is causing severe congestion during the busy summer period. This is causing difficulties for residents and is a serious safety issue at times.
- At present parking occurs in several areas along the grass verge. This is impacting on the roadside vegetation and the limestone pavement especially in areas along the Crag Road.

- Although a seasonal, daily, free bus service is provided by the NPWS from its visitor centre at Corofin on a looped system to the designated walking trail entry and exit points, this service would appear to be underutilised by visitors to the park.
- Numbers appear to be increasing to the BNP on an annual basis (based on the numbers recorded at the Visitor Information Point (Table 1). From the initial visitor observations undertaken (September 2014), most visitors come to the Park to observe the landscape and to walk along the designated trails. Considering the potential future increase in walkers along the trails, footfall impact on the trails must be continuously monitored in order to record and manage any negative impacts that may occur.
- The activities of licenced and unlicensed tour guides operating within the BNP needs more careful monitoring and information provided by the guides regarding the number of events they lead within the Park, the sites visited and the number of visitors on each tour.

4. SITE MANAGEMENT

4.1. Current Management

The Burren National Park is one of six designated National Parks in Ireland. It is in State ownership and managed by the National Parks and Wildlife Service (NPWS), part of the Heritage Service of the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

The NPWS Regional Manager, with responsibility for the Park is Dr. Enda Mooney. The policy of the park is to abide by the criteria and standards for National Parks as set out by the International Union for the Conservation of Nature (IUCN) in 1969.

The maintenance of the public roads that intersect the Burren National Park are a function of Clare County Council under the Roads Act of 1993.

4.2. Management Actions on Parking Issue to Date

In 1992, work commenced on the construction of a large interpretive facility and car park in the townland of Gortlecka. Ancillary works for the development, including effluent treatment works and an overflow car park were constructed across the road in the townland of Knockanroe. After a major legal challenge to this development all constructions were removed and the lands re-instated.

In October 2012, a planning application was made to Clare County Council by the National Parks and Wildlife Service for the development of a visitor car park and all associated services, in the townland of Knockanroe on the area of land previously disturbed for construction of an overflow car park in 1992. This area is 280m east of Gortlecka crossroads. The proposed car park would occupy 0.3ha and have 27 spaces, a one-way access system, a bicycle rack and pedestrian access pathway. The application resulted in submissions being received from An Taisce and the Burren Action Group. Clare County Council requested further information from the applicants which included an audit of all visitor facilities and transport options in the area and detail on visitor numbers and traffic generation. The application was withdrawn by the NPWS in March 2013 and no further action was undertaken.

5. CONCLUSIONS AND RECOMMENDATIONS

ISSUES	RECOMMENDED ACTIONS
The lack of official and adequate parking facilities within the Gortlecka -Crag Road area of the Burren National Park is causing severe congestion during the busy summer period. This is causing difficulties for residents and is a serious safety issue at times.	Explore with the BNP management the feasibility of developing the required information for the development of a traffic management plan for the Park with the aim of providing suitable parking facilities in agreement with all vested interests.
At present parking occurs in several areas along the grass verge. This is impacting on the roadside vegetation and the limestone pavement especially in areas along the Crag Road.	Develop a monitoring system to record changes in the ecology of the roadside verges along the Crag Road due to visitor parking pressure.
Although a seasonal, daily, free bus service is provided by the NPWS from its Visitor Information Point at Corofin on a looped system to the designated walking trail entry and exit points, this service would appear to be underutilised by visitors to the park.	Promote bus service through Burren Ecotourism Network's sustainable transport working group. Provide the bus timetable below the bus symbol on the bus stop signage. Carry out user survey on bus (numbers, origin of passengers, reason for trip and source of info about service).
Numbers appear to be increasing to the BNP on an annual basis (based on the numbers recorded at the Visitor Information Point:Table 1) . From the initial visitor observations undertaken (September 2014), most visitors come to the Park to observe the landscape and to walk along the designated trails. Considering the potential future increase in walkers along the trails, footfall impact on the trails must be continuously monitored in order to record and manage any negative impacts that may occur.	Develop a digitally based monitoring system to complement and improve the paper system currently being used by the BNP Conservation Ranger to measure changes in the path condition on the designated walking trails.
There are currently three licensed operators offering public walks within the BNP. At times, some groups have operated without a license. At times the number of participants on walks can be in the region of 30-40. This can cause problems with traffic congestion and large numbers of people impacting on the landscape, visually and physically at any one time.	Develop a set of guidelines and checklist for operators of public walks within the BNP and a template for recording activities and visitor numbers to be reported to BNP management on an annual basis. Define a carrying capacity for the most popular walking routes within the Park and at Slieve Carran and determine a suitable number that must not be exceeded on publicly advertised walks.

APPENDIX I

VISITOR ATTITUDES SURVEY Burren National Park 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
10	42	48	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
12	9	3	7	7	7	14	17	14	9

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	1	22	19	29	29

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	4	4	3	4	25	28	17	14

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

Yes	No
87	13

6. Have you read the information on them?

Yes	Partially	No
72	23	5

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

Yes	No
95	5

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	0	0	38	62

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
58	33	0	1	0	1	1	1	4

APPENDIX II

VISITOR OBSERVATION STUDY AT BURREN NATIONAL PARK (ZH)

1. Survey Detail

Site Id : BNP Gort	Date Of Survey	Day of Week	Duration of Survey	Weather	No of people observed
	16-9-14	Tuesday	10am-2.30pm (4.5 hours)	Dry and Cloudy	12

2. Number of Observations, gender and group breakdown

Number of people observed	Total number of females	Total number of males	Number of groups	Average group size
12	8	4	7	2

3. Mode of transport, Time Spent on Site, Main activity, group and age demographic

Date of observation	Obs group id	Time spent on site (hours:minutes)	Group type	Age demographic	Mode of transport	Main activity	Observed impacts
16-9-14	BNPGort 1	00:51	1M:1F	M:50 years F: 8years	Car	Walking/picnic Nature Trail	None
	BNPGort 2	00:53	1M:1F	65-75	Car	Walking Lough Avalla Route	None
	BNPGort 3	02:45	1F	40-45	Car	Walking Lough Avalla Route	None
	BNPGort 4	01:10	1M	50-55	Car	Walking Lough Avalla Route	None
	BNPGort 5	02:10	2F	35-40	Car	Walking Lough Avalla Route	None
	BNPGort 6	1:07	1M:2F	M: 20-25 F: 50-55 F: 15-18	Car	Photogrphs; walking Nature Trail	None
	BNPGort 7	01.32	1F	60-65	Car	Walking Nature Trail	None

Summary

Main Activities undertaken by observed visitors:

- Walking (35%)
- Photography (27%)
- Viewing landscape (18%)
- Picnicking (9%)

Mode of transport:

Car 64%

Push bike 27%

Motorbike: 9%

Average time spent on site: 1 hour 60 mins.

Observed Impacts:

- 1 Car parked on grass verge (14% of car owners)
- 1 couple went off designated trail to sit on rock (approx. distance 20m) – (2 out of six walkers: 33%)

Conclusions: It is hard for one observer to observe any impacts along walking routes.

Average time spent on site: 1 hour 30 minutes

4. Time spent reading Information Boards

Observation group Id	Time spent reading information boards (mins:secs)
BNPGort 1	0
BNPGort 2	0
BNPGort 3	0
BNPGort 4	0
BNPGort 5	01:00
BNPGort 6	0
BNPGort 7	00:45

Average time spent reading panel: 15 seconds

5. Impacts Observed

None. Due to the stationary position of the observer, it is difficult for one observer to observe any impacts along walking routes as they are largely out of view.

6. Time of day of arrival at site (observation study duration: 10.00-14.30 hours)

Observer Group ID	Time of Arrival at site
BNPGort 1	11.15
BNPGort 2	10.31
BNPGort 3	10.15
BNPGort 4	12.01
BNPGort 5	12.05
BNPGort 6	12.54
BNPGort 7	12.58

7. Visitor Movement Pattern



Observed movement patterns – dark blue line show core movement area; lighter blue peripheral area.